DOCUMENT RESUME

ED 275 537 SE 047 520

AUTHOR	Albrecht, Jean, Ed.
TITLE	Social Sciences in Forestry. A Current Selected Bibliography and Index. No. 68.
INSTITUTION	Minnesota Univ., St. Paul. Coll. of Forestry.
PUB DATE	Sep 86
NOTE	103p.
PUB TYPE	Reference Materials - Bibliographies (131)
JOURNAL CIT	Social Sciences in Forestry; n68 Sep 1986.
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Agronomy; Annotated Bibliographies; *Conservation (Environment); *Environmental Education; *Forestry; Land Use; *Lumber Industry; *Natural Resources; Recreation; Trees; Wildlife Management
IDENTIFIERS	*Environmental Management

ABSTRACT

This is the seventh issue of Social Sciences in Forestry, a publication which provides a current annotated bibliographic listing of references related to four major areas of forestry. The main categories are: (1) applications to forestry at large (containing citations on resources, history, legislation, policy, planning, appraisal and evaluation, investment and finance, taxation, subsidization, economics, education, research, technology, and environmental concerns); (2) applications for forest management (with references to multiple use management, ownership of public and private lands, labor, and protection); (3) production of forest goods and services (addressing areas such as outdoor recreation, wilderness and range management, urban forestry, wildlife and fish, and wood production); and (4) applications to forest industries (focusing on wood-using industries and other forest industries, marketing and trade, and transportation). This publication also contains an alphabetized author index. (TW)

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No. 68

September 1986

SOCIAL SCIENCES IN FORESTRY
A Current Selected Bibliography and Index

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Support for this publication was provided by the USDA Forest Service, Research, Washington, DC; the Department of Forest Resources and Agricultural Experiment Station, University of Minnesota, St. Paul, MN; and the University Libraries, University of Minnesota.

Jean Albrecht is Assistant Professor, Librarian, University of Minnesota Forestry Library.

Patricia Rodkewich is Assistant Professor, Agricultural and Applied Economics Bibliographer, St. Paul Campus Libraries, University of Minnesota.

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PREFACE

This is the seventh issue of the Social Sciences in Forestry to be published at the University of Minnesota College of Forestry.

References submitted by foreign cooperators are acknowledged by the addition of the cooperator's initials directly following the annotation. We welcome contributions of either references to publications or the publications themselves. We would also welcome additional foreign cooperators, particularly from countries not represented on the title page of this issue. Anyone interested in serving as a cooperator should write to us at the University of Minnesota Forestry Library, 1530 North Cleveland Avenue, St. Paul, MN 55108.

Loans or xerox copies of publications indexed in Social Sciences in Forestry are available from the Interlibrary Loan Division, St. Paul Campus Libraries, 1984 Buford Avenue, St. Paul, MN 55108. U.S.D.A. employees, please use Standard Form AD-245 in submitting your requests. Others, please submit requests on the standard interlibrary loan forms through your nearest library.

We gratefully acknowledge the contributions of four people who have helped to bring this issue to press: Theresa Surprenant, data entry operator; Keith Belli, programmer; Clara Schreiber, word processing specialist; and Ruth Davidson, secretary.

Jean Albrecht
Patricia Rodkewich

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SOCIAL SCIENCES APPLIED TO FORESTRY AT LARGE

GENERAL PUBLICATIONS

1207 Barton, K. and Fosburgh, W., 1986. **The U.S. Forest Service.** In: Audubon Wildlife Report 1986. New York: National Audubon Society. pp. 1-156.
An overview of the U.S. Forest Service, its work and resources.

1208 Countryside Commission for Scotland, 1986. **Forestry in Scotland.** Scottish Forestry 40:118-132.
A draft discussion paper on the broad issues surrounding forestry in Scotland.

1209 Economic Commission for Europe, and FAO, 1986. **The ECE Timber Committee Yearbook, 1985.** Timber Bulletin v. 39 no. 1. 31 pp.
The purposes of this yearbook are: (1) to provide an overview of the Committee's activities during 1985 and of activities planned for 1986 and 1987; and (2) to list the committee's publications.

1210 Holopainen, V., 1984. **Outlines of Finland's forestry and forest policy.** 2d ed. Helsinki, Society of Forestry in Finland (Suomen Metsatieteellinen Seura). 57 pp.
"A short, overall picture of forestry in Finland."

1211 Mead, D.J. and Ellis, R.C., editors, 1985. **Forestry--satisfying national and regional needs.** Papers presented to the second joint conference of the Institute of Foresters of Australia and New Zealand Institute of Foresters Inc. 20-24 May, 1985. Hobart, Tasmania.
Papers presented to the conference include a number which deal with land use in indigenous forests and private forestry. (HB)

1212 New York Forestry Congress, Syracuse, NY, 1984. **Proceedings.** State University of New York, College of Environmental Science and Forestry, School of Forestry Miscellaneous Publication no. 7. 44 pp.
The theme of the Congress was "Managing conflict in forestry."

1213 Oswald, M., editor, 1985. **[Human impacts on forests.]** International symposium, Strasbourg, 17-22 Sept., 1984. Paris, Institut National de la Recherche Agronomique, Les Colloques de l'INRA no. 30. 512 pp.
Divisions 1-4 of the International Union of Forestry Research Organizations took an active part in the organization of the symposium. The basic theme of the symposium was "Balancing the needs of mankind with healthy forests." Selected papers are indexed in this issue.

1214 Sharpe, G.W., Hendee, C.W., and Sharpe, W.F., 1986. **Introduction to forestry.** 5th ed. New York, McGraw Hill. 629 pp.

Includes sections on U.S. forest policy, forest management and protection, the economics of forestry, the organizational aspects of forestry, and the academic aspects of forestry.

1215 Shepherd, K.R. and Richter, H.V., Editors, 1985. **Managing the tropical forest: Papers from a workshop held at Gympie, Australia July 11-Aug. 12, 1983.** [Canberra] Australian National University, Development Studies Centre. 341 pp.

"An overview of the Workshop notes the problems in using conventional methods of economic assessment to evaluate management of natural tropical forests and the contribution which forestry can make to economic and social development." (p. v)

1216 Stumbles, R.E., 1986. **Forestry in the Northern Powys.** Forestry 59:107-120.

"A description is given of the physical features and history of Northern Powys together with the development of and present state of forestry in the area." (p. 107)

1217 Taylor, G.F., II and Taylor, B.A., Compilers, 1984. **Forests and forestry in the West African Sahel: A selected bibliography.** Bamako, Mali, CILSS/Institut du Sahel. 207 pp.

"Forestry has been broadly defined to include both the natural and social science components of forest and woodland management...." (p. ix)

1218 Uusitalo, M., Editor, 1986. **Yearbook of forest statistics 1985.** Folia Forestalia 660. 238 pp.

Provides an overall picture of forestry in Finland. Also contains information about the production of the forest industries and exports of the forest sector.

FOREST RESOURCES: REGIONAL, NATIONAL, INTERNATIONAL

1219 Birdsey, R.A. and McWilliams, W.H., 1986. **Midsouth forest area trends.** U.S. Forest Service, Resource Bulletin SO-107. 17 pp.
"Timberland area trend estimates are presented for the Midsouth and for its individual states." (abstract)

1220 Brown, M.J., 1986. **Forest statistics for the Southern Mountains of Virginia, 1986.** U.S. Forest Service, Resource Bulletin SE-86. 55 pp.

1221 Brown, M.J., 1986. **Forest statistics for Virginia, 1986.** U.S. Forest Service, Resource Bulletin SE-87. 67 pp.
This report deals with the extent and condition of forest lands, associated timber volumes, and rates of timber growth and removals. The report highlights the principal findings of the fifth forest survey of Virginia.

1222 Brown, M.J., 1986. **Forest statistics for the Northern Piedmont of Virginia, 1986.** U.S. Forest Service, Resource Bulletin SE-84. 52 pp.

1223 Brown, M.J., 1986. **Forest statistics for the Northern Mountains of Virginia, 1986.** U.S. Forest Service, Resource Bulletin SE-85. 56 pp.

1224 Buck, M.G., Costales, P.G., and McDuffie, K., 1986. **Multiresource forest statistics for Molokai, Hawaii.** U.S. Forest Service, Resource Bulletin PNW-136. 18 pp.
Tables of forest area, timber volume, vegetation type, ownership, land class, and wildlife are presented.

1225 Economic Commission for Europe, and FAO , 1985. **The forest resources of the ECE Region (Europe, the USSR, North America).** Geneva, United Nations Economic Commisssion for Europe, and Food and Agriculture Organization. ECE/TIM/27. 223 pp.

1226 Hahn, J.T., 1986. **Timber volume in Wisconsin 1983.** U.S. Forest Service, Research Note NC-335. 7 pp.

1227 Hiserote, B.A., Moen, J., and Bolsinger, C.L., 1986. **Timber resource statistics for the San Joaquin and southern California resource areas.** U.S. Forest Service, Resource Bulletin PNW-132. 35 pp

1228 Jarck, W., 1985. **The hardwood resource outlook.** In: Structural Wood Composites: Meeting Today's Needs and Tomorrow's Challenges. Madison, Forest Products Research Society Proceedings 7339. pp. 143-152.

1229 Kumar, R., 1986. **The forest resources of Malaysia: Their economics and development.** New York, Oxford University Press. 268 pp.

1230 Lloyd, J.D., Jr., Moen, J., and Bolsinger, C.L., 1986. **Timber resource statistics for the north coast resource area of California.** U.S. Forest Service, Resource Bulletin PNW-131. 32 pp.

Presents tables of forest area, timber volume, growth, and mortality for Del Norte, Humboldt, Mendocino, and Sonoma counties in California.

1231 Lloyd, J.D., Jr., Moen, J., and Bolsinger, C.L., 1986. **Timber resource statisitics for the Sacramento resource area of California.** U.S. Forest Service, Resource Bulletin PNW-134. 32 pp.

1232 Lothner, D.C., 1986. **State, county, and municipal forests: Lake States lead the nation.** Journal of Forestry 84(8):31-32.

1233 Raile, G.K., 1985. **Wisconsin forest statistics, 1983.** U.S. Forest Service, Resource Bulletin NC-94. 113 pp.

Presents statistics on area, volume, growth, mortality, and removals.

1234 Smith, W.B., 1986. **Wisconsin's fourth forest inventory: Area.** U.S. Forest Service, Resource Bulletin NC-97. 48 pp. + map.

1235 Uttech, P.R. and Stier, J.C., 1986. **Development potential of Wisconsin's red pine resource.** University of Wisconsin--Madison, Dept. of Forestry, Forest Resource Analyses no. 5; College of Agr. and Life Sciences R 3373. 16 pp.

1236 Virginia Division of Forestry, 1985. **Virginia's forests; its common wealth: Economic study 1985.** Virginia Dept. of Conservation and Historic Resources, Division of Forestry, in cooperation with U.S. Forest Service, Atlanta, Georgia. 33 pp.

"This publication illustrates the economic importance of the forest resource to Virginia."

1237 Wheatcraft, A.M. and Lewis, D.K., 1986. **Forest biomass resources of Oklahoma.** Oklahoma State University, Agricultural Experiment Station, Bulletin B-781. 45 pp.

Describes the potential biological productivity of the Oklahoma forest resource and the impact of that potential production on the economy of the state.

HISTORY

1238 Brown, C.E., 1986. **History of the Rogue River National Forest: Volume 1, 1893-1932.** 278 pp.
No publishing information given. Publication is undated; probable date, 1986. The Rogue River National Forest is located in Southern Oregon and Northern California.

1239 Carron, L.T., 1983. **A brief history of forestry in Queensland.** Australian Forestry 46:75-82. (HB)

1240 Carron, L.T., 1985. **A history of forestry in Australia.** Canberra, Australian National University Press. 355 pp.

1241 Glover, J.M. and Glover, R.B., 1986. **Robert Marshall--portrait of a liberal forester.** Journal of Forest History 30:112-119.

1242 Taylor, R.F., 1985. **Univeristy of Maine Forest: Condition, observations and development 1939 to 1983.** Maine Agricultural Experiment Station, Miscellaneous Publication 682. 39 pp.
Cover title: An historical review of the University of Maine Forest.

1243 Thirgood, J.V., 1986. **The struggle for sustention on the island of Cyprus.** Journal of World Forest Resource Management 2:21-41.
"Trends in forest policy and reforestation on the island of Cyprus are described for the period since the late nineteenth century...." (p. 21)

1244 Thomson, A.P., 1985. **George Malcolm Thomson and the 1913 Royal Commission on Forestry. Part 1: The political battle.** New Zealand Journal of Forestry 30:18-27.

1245 Walsh, B.W., 1986. **Grey Towers celebrates a centennial.** Journal of Forestry 84(8):24-29.
Grey Towers, formerly the home of Gifford Pinchot, now houses the U.S. Forest Service's Pinchot Institute for Conservation Studies.

LEGISLATION

1246 Anderson, L.M. and Eaton, T.M., 1986. **Liability for damage caused by hazardous trees.** Journal of Arboriculture 12:189-195.
Summarizes the general principles of law that courts use to determine who is liable when tree defects result in personal injury or property damage.

1247 Beuter, J., 1986. **Are state forest practice acts constitutional?** Forest Watch 6(8):15-18.
Some opponents of forest practice regulations argue that they violate the Fifth Amendment of the U.S. Constitution in that they constitute a "taking" of private property rights for public benefits without compensation to the landowner.

1248 Cubbage, F.W., Siegel, W.C., and Raney, K.P., 1985. **Logging, politics, and regulation in the East: Status and prospects.** In: Council on Forest Engineering. Proceedings of the 8th annual meeting. pp. 7-10.
"A model of politics is adopted that helps explain the recent proliferation of state and local laws that regulate logging. The status of logging regulation in the eastern United States is reviewed...." (p. 7)

1249 Gasser, D.P., 1985. **Impacts of forest practice regulation in California.** In: Council on Forest Engineering. Proceedings of the 8th annual meeting. pp. 11-15.

1250 Griffin, N. and Watkins, C., 1986. **Public access to woodland and the owner's liability as an occupier of land.** Quarterly Journal of Forestry 80:151-158.
The authors consider the liability which a tree owner has for people lawfully or unlawfully on his land.

1251 Harris, J.G.S., 1986. **Some recent legal actions relating to trees.** Arboricultural Journal 10:81-88.
Discusses liability for trees.

1252 Phillis, K.J., 1985. **Legislative protection of forest values.** In: Shepherd, K.R. and Richter, H.V., eds. Managing the tropical forest. pp. 141-151.
A discussion of the regulation of forest management for the protection of non-wood values in Australia.

1253 Schmithusen, F., 1986. **Forest legislation in selected African countries.** FAO Forestry Paper 65. 345 pp.
"Based on the review and analysis of forest legislation in 11 member countries of the African Timber Organization." (t.p.)

1254 Utter, J., 1985. **Some legal considerations in water quality management for wildland recreation.** University of Arizona,

College of Agriculture, School of Renewable Natural Resources, College of Agriculture Paper no. 536; Eisenhower Consortium Institutional Series Report 7. 46 pp.

A discussion of the different types of law (legislative, executive, and judicial) which relate to recreational water quality management.

POLICY

1255 Bean, S.O., Jr., 1985. **Research/education perspectives to design forest policies to improve the silviculture/harvest interaction.** In: Martin, A.J., ed. Timber harvesting: The link between management and utilization. pp. 197-206.

1256 Bertrand, A., 1985. **[New forestry policies in rural zones of the Sahel.]** Bois et Forets des Tropiques 207:23-39.
In French, with English summary. The first part of the article "deals with the management of space and with regulations governing the use of land in the rural zones of the Sahel." Former forest policy and emerging new policies are also discussed.

1257 Brooks, J.L., 1985. **Developing forestry policy--compromise as an art form.** In: Martin, A.J., ed. Timber harvesting: The link between management and utilization. pp. 178-182.

1258 Canadian Forestry Service and British Columbia Ministry of Forests 1985. **Canada-British Columbia Forest Resources Development Agreement 1985-1990.** Victoria, B.C., Canadian Forestry Service; B.C. Ministry of Forests. 32 pp.

1259 Canadian Forestry Service and Ontario Ministry of Natural Resources, 1985. **Canada-Ontario Forest Resource Development Agreement.** Toronto, Ontario Ministry of Natural Resources. 34 pp. (Eng.) 35 pp. (Fr.)
In English and French. Available from: Administrator, COFRDA, c/o Ministry of Natural Resources, Forest Resources Group, Whitney Block, 99 Wellesley Street West, Toronto M7A 1W3.

1260 Dowdle, B. and Hanke, S.H., 1985. **Public timber policy and the wood-products industry.** In: Deacon, R.T. and Johnson, M.B., eds. Forestlands: Public and private. pp. 77-102.

1261 Dowdle, B., 1984. **Public and private timber management: Anatomy of a coexistence problem.** Western Wildlands 10(1):19-23.
The author states that "Government involvement in timber production is, over the long run, incompatible with private timber production...." (p. 20)

1262 Guillard, J., 1985. **[How forest policy influences the health of forests?]** In: Oswald, M., ed. Human impacts on forests. pp. 419-430.
In French with English summary.

1263 Jackson, D.H., 1984. **Canadian approaches to forest land tenure: An option for Montana?** Western Wildlands 10(2):20-23.

1264 Johnson, R.N., 1985. **U.S. Forest Service policy and its budget.** In: Deacon, R.T. and Johnson, M.B., eds. Forestlands: Public

and private. pp. 103-133.

Three conclusions: (1) "Forest Service policy is not guided by economic efficiency criteria; (2) "the agency's behavior is often at odds with its espoused conservation ethic; and (3) "the agency has not been passive; it has sought to expand its operations under the guise of multiple-use and sustained-yield management...." (p. 132)

1265 Libecap, G.D., 1985. **Regulatory constraints on oil and gas production on Forest Service and BLM lands.** In: Deacon, R.T. and Johnson, M.B., eds. Forestlands: Public and private. pp. 135-148.

1266 Sirken, R.A., 1985. **Forest policy, harvesting, and silviculture: The industrial perspective.** In: Martin, A.J., ed. Timber harvesting: The link between management and utilization. pp. 190-196.

1267 Stanley, H.H., 1983. **Forest policy development in Newfoundland.** In: The Future of Silviculture in Newfoundland: Proceedings of the Silviculture Newfoundland Symposium, 1983. Newfoundland Forest Research Centre; Newfoundland Dept. of Forest Resources and Lands. pp. 319-322.

1268 Vaux, H.J., 1986. **The regulation of private forest practices in California: A case in policy evolution.** Journal of Forest History 30:128-134.

PLANNING

1269 Allen, J.C., 1986. **Multiobjective regional forest planning using the noninferior set estimation (NISE) method in Tanzania and the United States.** Forest Science 32:517-533.

Describes an application of "an efficient multiobjective linear programming algorithm, called the noninferior set estimation (NISE) method, to a problem of forest management in Tanzania, and discusses NISE's applicability to public forest management in the United States." (p. 518)

1270 Booth, T., 1985. **Land productivity assessment.** In: Shepherd, K.R. and Richter, H.V., eds. Managing the tropical forest. pp. 47-62.

Discusses the FAO "Guidelines on Land Evaluation for Forestry"; describes a forest land evaluation project which uses methodology similar to the FAO guidelines; considers "some of the alternative means of assessing actual or potential forest land productivity."

1271 Davis, J.R. and Ive, J.R., 1985. **Producing land use plans for forests.** In: Shepherd, K.R. and Richter, H.V., eds. Managing the tropical forest. pp. 73-82.

"In this paper, the term 'planning' is defined to mean the choice and control of either one or a number of land uses from a candidate set." (p. 73)

1272 Don, A.R., 1985. **Land use planning in forest lands: Queensland case studies.** In: Shepherd, K.R. and Richter, H.V., eds. Managing the tropical forest. pp. 83-104.

1273 Field, R.C., 1984. **National forest planning is promoting U.S. Forest Service acceptance of operations research.** Interfaces 14(5):67-76.

"OR analysts in nearly all 121 national forest headquarters use large LP models for planning. A newly purchased computer system will extend these applications."

1274 Hof, J.G., and Pickens, J.B., 1986. **A multilevel optimization system for large-scale renewable resource planning.** U.S. Forest Service, General Technical Report RM-130. 23 pp.

"This report analyzes and evaluates one approach to utilizing local planning analyses of public renewable resource management agencies as an imput in developing large-scale (national) resource management plans." (abstract)

1275 Hull, R.B., IV and Buhyoff, G.J., 1986. **The scenic beauty temporal distribution method: An attempt to make scenic beauty assessments compatible with forest planning efforts.** Forest Science 32:271-286.

"A method was developed which simulates and evaluates scenic beauty through time with the intent of providing useful

information for forest management and planning efforts." (p. 271)

1276 Jacobsson, J., 1986. **Optimization and data requirements--a forest management planning problem.** Umea, Sveriges Lantbruksuniversitet, Avdelningen for Skogsuppskattning och Skogsindelning. 143 pp.

A dissertation. Deals with problems concerning optimization and data requirements in connection with the Forest Management Planning Package developed at the Swedish University of Agricultural Sciences.

1277 Kelly, J.W., Kent, B.M., Johnson, K.N., and Jones, D.B., 1986. **FORPLAN version 1: User's guide.** U.S. Forest Service, Land Management Planning Systems Section. Various pagings.

1278 Lai, C.K., 1986. **Forestry planning: The Senegalese experience.** Rural Africana 23/24:95-105.

1279 Lofgren, K.G., 1986. **The supply and demand for forest land: A theoretical outline.** Sveriges Lantbruksuniversitet, Institutionen for Skogsekonomi, Arbetsrapport nr. 51. 13 pp.

1280 McDonald, G.T., 1985. **Rural land use planning and forestry in Australia.** In: Shepherd, K.R. and Richter, H.V., eds. Managing the tropical forest. pp. 27-45.

"This paper reviews Australian forestry, and especially commercial timber production, within a broad framework of rural land use planning." (p. 27)

1281 Michigan Dept. of Natural Resources, 1983. **Michigan's forest resources--direction for the future--a statewide forest resources plan.** Michigan Dept. of Natural Resources. 41 pp.

1282 Norse, E.A. et al., 1986. **Conserving biological diversity in our national forests.** Washington, D.C., Wilderness Society. 116 pp.

Co-authors are: K.L. Rosenbaum, D.S. Wilcove, B.A. Wilcox, W.H. Romme, D.W. Johnston, and M.L. Stout. Prepared by the Ecological Society of America for the Wilderness Society. Includes chapters on "National Forest Planning" and "What to Look for in a Forest Plan."

1283 Palmer, C. and Siverts, E., 1985. **IMPLAN analysis guide version 1.1.** U.S. Forest Service, Land Management Planning Systems Section. Various pagings.

"The IMPLAN system has been designed in response to several of the National Forest Management Act...and National Environmental Policy Act planning requirements for economic analysis... This Analysis Guide contains techniques and procedures to assist the user in the proper construction of models and their application in the forest planning process." (abstract)

1284 Park, T.S., 1985. **Forest planning and management policy in Korea--with emphasis of forest management plan and management operation by proxy system.** Research Bulletin of the Seoul National University Forests 21:9-19.
In English.

1285 Richards, K.B., editor, 1985. **Strategic plan for forest resources in New York State; containing recommendations of the Forest Resources Planning Issues Study Committee.** New York State Dept. of Environmental Conservation. 186 pp.
Contains recommendations for actions to be carried out over the next five years.

1286 Wood, W.C. II., 1984. **Socially responsive management of forestry resources through interactive planning.** Ph.D. thesis, University of Virginia; Ann Arbor, MI, University Microfilms International. 439 pp.

APPRAISAL AND VALUATION

1287 Lofgren, K.G., 1986. **The assessment of values and the properties of the present value function.** Sveriges Lantbruksuniversitet, Institutionen for Skogsekonomi, Rapport nr. 64. 19 pp.
A discussion of some of the theorems relevant for the assessment of the value of forest land: Convexity, concavity, and sub-additivity or super-additivity.

1288 Loomis, J.B. and Walsh, R.G., 1986. **Assessing wildlife and environmental values in cost-benefit analysis: State of the art.** Journal of Environmental Management 22:125-131.

INVESTMENT AND FINANCE

1289 Baughman, M.J. and Ellefson, P.V., 1986. **Funding county forests.** Journal of Forestry 84(8):33-34.
Reports on the recommendations of a 1981 panel selected to suggest new funding sources for county forestlands in Minnesota.

1290 Bullard, S.H., Monaghan, T.A., and Straka, T.J., 1986. **Introduction to forest valuation and investment analysis.** Mississippi State University Cooperative Extension Service, Publication 1546. 131 pp.

1291 Dargavel, J., 1985. **Theory and practice in resource allocation.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November 14-15, 1985. Queensland Department of Forestry, Brisbane. 17 pp.
The author reviews theories of resource allocation including Young's concept of 'resource regimes' and investment theory, and reviews current allocation practices in New South Wales, Victoria and Tasmania. (HB)

1292 Fortson, J.C., 1986. **Factors affecting the discount rate for forestry investments.** Forest Products Journal 36(6):67-72.
"The primary purpose of this paper is to review current capital budgeting techniques. The superiority of the net present value criterion for capital budgeting decisions is demonstrated." (p. 67)

1293 Harou, P.A., 1986. **Incorporating feedback mechanisms into forestry decision making.** Canadian Journal of Forest Research 16:580-584.
"In this paper, a feedback model is proposed to monitor and appraise forestry investments." (p. 580)

1294 Kato, F., 1986. **[Static and classic dynamic methods of capital investment calculations for forest enterprises--contents, problems, critique and conclusions.]** Schriften aus der Forstlichen Fakultat der Universitat Gottingen no. 85. 99 pp.
In German with English summary.

1295 Kronrad, G.D., 1985. **Forestry investments sometimes appear more attractive as discount rates increase.** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 48. 8 pp.

1296 Lewis, J.T. and McKenzie, G.R., 1984. **Forestry finance and taxation.** New Zealand Forest Service, Trees and Timber no. 4. [4] pp.

1297 Lewis, J.T. and McKenzie, G.R., 1984. **Forestry joint ventures.** New Zealand Forest Service, Trees and Timber no. 3. [4] pp.

"A Joint Venture scheme is a co-operative agreement between a land owner and an investor to develop a productive forest on the land owner's property." (p. 4)

1298 Maine Forest Service, 1984. **Cost and income treatment on small woodlands.** Maine Forest Service, Forest Fact Sheet. [4] pp.

1299 Maine Forest Service, 1984. **Some factors to consider when buying woodland as an investment.** Maine Forest Service, Forest Fact Sheet. [2] pp.

1300 McGaughey, S.E., 1986. **International financing for forestry.** Unasylva 38(1)(151):2-11.

1301 Nautiyal, J.C. and Rawat, J.K., 1986. **Role of forest tenure in the investment behaviour of integrated Canadian forestry firms.** Canadian Journal of Forest Research 16:456-463.

"Tenure was found to play an important role in the investment decisions of firms with 'site-specific' plants.... Such firms would seek to overcome tenure insecurity by negotiating a tenure as long as the economic life of their plants, implying that government could employ tenure as an instrument to regulate capital investment in large forestry firms." (p. 456)

1302 Nazir, M., 1983. **Funding of silviculture in Newfoundland.** In: The Future of Silviculture in Newfoundland: Proceedings of the Silviculture Newfoundland Symposium, 1983. Newfoundland Forest Research Centre; Newfoundland Dept. of Forest Resources and Lands. pp. 300-306.

1303 O'Toole, R., 1986. **Investing in timber lands.** Forest Watch 7(1):15-18.

The author discusses a University of Georgia Agricultural Experiment Station study which maintained that "Forest Service investments are extremely inefficient when compared against investment criteria used by private timber companies...." (p. 15)

1304 O'Toole, R., 1986. **What's wrong with cash flow?** Forest Watch 6(8):24-26.

The author advocates the use of present net value rather than cash flow in deciding what national forest lands should be managed for timber.

1305 Price, C., 1986. **Will the real case against NDR please step forward?** Quarterly Journal of Forestry 80:159-162.

Discusses the case against net discounted revenue.

1306 Schell, J.C.A., 1985. **Woodlot record systems.** New Zealand Forest Service, Trees and Timber: Forest Management Practices no. 1. [4] pp.

1307 Shaikh, A.M., 1986. Initiating forestry reforms in the Sahel: The role of transitional financing. Rural Africana 23/24:49-59.

TAXATION

1308 Clememts, S.E., Klemperer, W.D., Haney, H.L., Jr., and Siegel, W.C., 1986. **Current status of timber yield and severance taxes in the United States.** Forest Products Journal 36(6):31-35.

"This article presents results of a study of existing timber harvest tax laws current as of 1984, including a discussion of classified acreage." (p. 31)

1309 Hansen, B.G., 1986. **Selecting a tax rate for use in analyzing forest industry capital investment.** Northern Journal of Applied Forestry 3:101-103.

"This article focuses on federal tax rate selection in capital budgeting studies and its effect on investment performance as measured by the NPV and IRR." (p. 101)

1310 Hoover, W., 1986. **Logger can get capital gains on timber cut.** American Tree Farmer 5(4):9.

1311 Jenkins, L.C., 1986. **Timber sales and the federal income tax: Guidelines for management and reporting by farmers and timber growers.** Pennsylvania Cooperative Extension Service, Special Circular no. 321. 43 pp.

Includes sections on "The farmer and forestry sales," and "The timber producer and tax accounting," and an appendix of tax forms used in reporting sales.

1312 Kronrad, G.D. and Harou, P.A.W., 1986. **An economic evaluation of the Massachusetts forestry yield tax program.** North Carolina State University, Small Woodlot Forestry R & D Program, Researh Note Series no. 42. [5] pp.

Reprinted from Forestry Chronicle 61:358-362.

1313 Kronrad, G.D. and Hickman, C.A, 1986. **Optional forest yield taxes.** Journal of Forestry 84(7): 27-30.

1314 Kronrad, G.D. and Hickman, C.A., 1986. **Optional forest yield taxes.** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 37. [4] pp.

Reprinted from Journal of Forestry 84(7):27-30.

1315 Kronrad, G.D., 1985. **The threat to capital gains treatment is a threat to us all.** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 51. [1] p.

Reprinted from National Woodlands 8(4):5.

1316 Rawls, L.H., 1986. **Timber estate tax; safe from change--for now.** Forest Farmer 45(9):22.

1317 Rideout, D. and Hof, J.G., 1986. **A re-evaluation of the site**

burden concept when forest land value is maximized. Forest Science 32:511-516.

"Comparative statics of the Faustmann (1849) forest land value model are used to anlyze the site burden measure of forest tax incidence." (p. 511)

1318 Sampson, N., 1986. **Forestry incentives: At the crossroads--again.** American Forests 92(9):10-11, 48-50.

A review of tax incentives and how they will be affected by the 1986 Tax Reform Bill.

1319 Sedjo, R.A., Radcliffe, S.J., and Lyon, K.S., 1986. **Tax reform and timber supply.** Washington, D.C., Resources for the Future. 13 pp.

A Resources for the Future Policy Brief. "Most timber industry analysts agree that a tax system similar to Treasury II or the House bill, if enacted, will severely depress the rate of return on timber investments and thus draw capital away from forestry, reduce long-term timber supply, and increase stumpage prices." (p. 1)

1320 Sessions, J., 1986. **Can income tax rules affect management strategies for forest roads?** Western Journal of Applied Forestry 1:26-28.

The author shows "how various road-related costs are affected by income tax treatment" and illustrates "how such tax treatments, especially the marginal tax rate of the owner, influence decisions on road investment." (p. 26)

1321 Siegel, W.C., 1986. **Historical development of the federal timber income tax provisions.** Paper prepared for the Grey Towers Conference on Federal Taxation of Forest Derived Income, sponsored by National Friends of Grey Towers and Duke University Center for Forestry Investment, Milford, PA, Jan. 22-24, 1986. 19 pp.

SUBSIDIZATION

1322 Hall, O.F. and Starr, J.D., 1985. **Developing state forest policy: Virginia's pine reforestation program.** In: Stevens, W.B., ed. A focused discussion of assistance and incentives for private forest owners. pp. 35-54.

1323 Kaiser, H.F., 1985. **Importance of assistance and incentives: A major southern example.** In: Stevens, W.B., ed. A focused discussion of assistance and incentives for private forest owners. pp. 9-11.

1324 Kronrad, G.D., Morzuch, B.J., and Stevens, T.H., 1986. **Promoting forest management: Government financed incentives or free market solutions?** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 47. 19 pp.

1325 Kronrad, G.D., 1985. **Should we continue to subsidize forestry?** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 62. 13 pp.

1326 Kronrad, G.D., Morzuch, B.J., and Stevens, T.H., 1984. **The profitability of forest management in Massachusetts.** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series. no. 43. 15 pp.
Addresses the question of whether nonindustiral private forest landowners in Massachusetts need the two incentive programs available to them to profitably manage their forest lands. The programs are: the Forestry Incentives Program and a special forest tax law.

1327 Kurtz, W.B., Burchett, R.C., and Myles, G.A., 1986. **Effects of reforestation tax incentives and exclusion of cost-share payments on state and federal tax revenues from FIP investments.** National Woodlands 9(5):17-19.

1328 Raup, P.M., 1985. **A framework for evaluating assistance and incentives for forest land owners.** In: Stevens, W.B., ed. A focused discussion of assistance and incentives for private forest owners. pp. 3-6.

1329 Risbrudt, C.D., 1985. **Efficiency and effectiveness of public incentives in forestry: The case of FIP.** In: Stevens, W.B., ed. A focused discussion of assistance and incentives for private forest owners. pp. 25-30.

1330 Terry, G., 1985. **Facts and figures on assistance and incentive programs for nonindustrial private forest owners in Michigan.** In: Stevens, W.B., ed. A focused discussion of assistance and incentives for private forest owners. pp. 57-59.

1331 Wood, L.J., 1982. **Incentive schemes for private forestry in Tasmania.** Australian Forester 45:152-163.
Recent developments in schemes to promote private forestry in Tasmania are reviewed. (HB)

See also reference no. 1424.

ECONOMIC DEVELOPMENT

1332 Clayton, E.C., 1985. **Monitoring and evaluation of participating forestry projects.** FAO Forestry Paper 60:1-29.

1333 FAO Committee on Forest Development in the Tropics, 1985. **Tropical forestry action plan.** Rome, Food and Agriculture Organization of the United Nations. 159 pp.
Sections include: Forestry in land use; Forest-based industrial development, Fuelwood and energy, Conservation of tropical forest ecosystems, and Summary of investment requirements.

1334 FAO Forestry Department, Policy and Planning Service, 1985. **Monitoring and evaluation of participatory forestry projects.** Rome, Food and Agriculture Organization of the United Nations, FAO Forestry Paper no. 60. 133 pp.
This publication "describes experience gained in developing and operating monitoring and evaluation systems in two participatory forestry projects, one in Malawi and the other in Nepal."

1335 Ledgard, N.J. and Belton, M.C., 1985. **Diversification and opportunities in forestry in the South Island high country.** New Zealand Journal of Forestry 30:133-143.
The possible scale of any forestry development, and points for and against high country forestry are discussed. The authors conclude that forestry is a "viable land use option for the South Island high country." (p. 133)

1336 Nawasawat, T.T., 1986. **Private forestry and rural development: Thailand.** In: FAO. Five perspectives on forestry for rural development in the Asia-Pacific Region. pp. 43-50.
This paper discusses the private sector role in reforestation and forest development in Thailand.

1337 Obiya, A., Chappelle, D.E., and Schallau, C.H., Compilers, 1986. **Spatial and regional analysis methods in forestry economics: An annotated bibliography.** u.S. Forest Service, General Technical Report PNW-190. 32 pp.
"Entries relate to models, techniques, and information regarding spatial and regional analysis printed before 1981." (abstract)

1338 Organisation for Economic Co-Operation and Development, 1986. **The public management of forestry projects.** Paris, OECD. 99 pp.
The objective of this study "is to provide a tool for improvement of forestry project appraisal investment procedures decision-making by including economic, financial, social and environmental factos. It proposes a set of guidelines for assessing forestry projects, and describes in

broad terms the sequence of steps for the appraisal process." (p. 7)

1339 Salazar, D.J., Schallau, C.H., and Lee, R.G., 1986. **The growing importance of retirement income in timber-dependent areas.** U.S. Forest Service, Research Paper PNW-359. 10 pp.
The authors argue that the "retirement" sector has become a major economic sector in the 5 counties studied, and that the implications of this for natural resource management are (1) "economic diversification may lessen the effects of projected declines in timber harvests; and (2) local concern for the management of amenity-related resources may grow."

1340 Suryo, S., 1986. **Forestry development: Indonesia.** In: FAO. Five perspectives on forestry for rural development in the Asia-Pacific Region. pp. 15-42.

1341 Taylor, G.F., II and Soumare, M., 1986. **Strategies for forestry development in the West African Sahel: An overview.** Rural Africana 23/24:5-19.

1342 Yabaki, K.T., 1986. **Forestry for development: Fiji.** In: FAO. Five perspectives on forestry for rural development in the Asia-Pacific Region. pp. 51-65.

SOCIAL AND COMMUNAL FORESTRY

1343 Bhattarai, T.N. and Campbell, J.G., 1985. **Monitoring and evaluation of the community forestry project in Nepal.** FAO Forestry Paper 60:31-101.

1344 Chowdhry, K., 1986. **Wastelands and the rural poor: India.** In: FAO. Five perspectives on forestry for rural development in the Asia-Pacific Region. pp. 1-6.

1345 Devitt, J., 1986. **Forestry in Himalayan Bhutan.** Unasylva 38(1)(151):46-51.
An interview with Dasho Chenkhap Dorji, former Director of Forests, Royal Government of Bhutan.

1346 FAO, 1986. **Five perspectives on forestry for rural development in the Asia-Pacific Region.** Bangkok, FAO Regional Office for Asia and the Pacific, RAPA Monograph 1986/1. 65 pp.
A compilation of 5 papers presented at the Regional Symposium on Forestry for Rural Development held in Bangkok, Oct. 2, 1985.

1347 Fengzhu, Q., 1986. **Forestry for rural development: China.** In: FAO. Five perspectives on forestry for rural development in the Asia-Pacific Region. pp. 7-14.

1348 Fortmann, L.P., 1986. **Women in subsistence forestry.** Journal of Forestry 84(7):39-43.
"The land areas and economic value represented by subsistence forestry and the populations dependent on it often exceed those related to commercial forestry.... Whatever the product and whatever the use, subsistence forestry is practiced primarily by women." (p. 39)

1349 French, D., 1985. **Monitoring and evaluation of the Malawi Wood Energy Project.** FAO Forestry Paper 60:103-133.

1350 Gieteling, C.J., 1986. **Promoting self-sustained forestry in the Peruvian Andes.** BOS Nieuwsletter 5(2/3,14):60-70.
Subtitle: Experiences in the FAO/Holland Project "Support for Forestry Plantations for Energy Purposes and Rural Community Development in the Peruvian Highlands."

1351 Goswami, N.R., 1984. **Management of social forestry in Assam: A case study.** Jorhat, Assam, Agro-Economic Research Centre for North-East India, Assam Agricultural University. Ad-hoc Study no. 56. 109 pp.

1352 Grainger, A., 1986. **Increasing the effectiveness of afforestation projects in the tropics involving Non-Governmental Organizations.** International Tree Crops Journal 3:33-47.

"Non-Governmental Organizations (NGOs) play a significant role in the funding and implementation of social forestry projects in developing nations.... A preliminary list is given of international NGOs and NGOs based in the OECD nations which are involved in or supportive of forestry or forestry-related activities." (p. 33)

1353 Kirchhofer, J. and Mercer, E., 1984. **Putting social and community forestry in perspective in the Asia-Pacific region.** Honolulu, East-West Center, East-West Environment and Policy Institute, Working Paper. 21 pp.

"The purposes of this paper are (1) to review briefly the concepts of community and social forestry; (2) to propose a typology of the various 'social' approaches to forestry; and (3) to offer some comments on both the potential and the limitations of the community forestry concept." (p. 1)

1354 Kowero, G.S. and Temu, A.B., 1985. **Some observations on implementing village forestry programmes in Tanzania.** International Tree Crops Journal 3:135-146.

1355 Mishra, A., 1982. **Voluntary efforts in social forestry (India).** New Delhi, Gandhi Peace Foundation. Unpaged.

A directory of non-governmental organizations engaged in social forestry work in India.

1356 Mulder, R.P., 1986. **Social forestry in Honduras.** BOS Nieuwsletter 5(1)(13):19-26.

1357 Rahman, F.H., 1986. **Many people, few forests.** Unasylva 38(1)(151):52-57.

An interview with S.A. Mahmoud, Secretary of Agriculture and Forests Division, Bangladesh. Forests supply 2% of the GNP. Approximately 80% of all forest products are used for fuel.

1358 Skutsch, M.M., 1985. **Forestry by the people for the people--some major problems in Tanzania's village afforestation programme.** International Tree Crops Journal 3:147-170.

1359 Skutsch, M.M., 1986. **Participation of women in social forestry programmes: Problems and solutions.** BOS Nieuwsletter 5(1)(13):9-18.

1360 Udarbe, M.P., 1985. **Economic considerations in forest plantation development--a case study of the activities of the Sabah Forestry Development Authority (SAFODA).** International Tree Crops Journal 3:85-99.

"This paper...illustrates how forest plantations can be used as a means of uplifting the standard of living of rural people in economically depressed areas. The financial and economic aspects of two major projects are examined." (p. 85)

AGROFORESTRY

1361 Brookman-Amissah, J., 1985. **Forestry and socio-economic aspects of modification of traditional shifting cultivation through the taungya system in the Subri Area, Ghana.** In: FAO Forestry Dept. Changes in shifting cultivation in Africa: Seven case studies. FAO Forestry Paper 50/1. pp. 163-185.

1362 Buck, M.G., 1986. **Concepts of resource sharing in agroforestry systems.** Agroforestry Systems 4:191-203.
This paper outlines the general concepts of multi-dimensional resource sharing and utilization among and between the crop components within the system, and shows how these concepts can be utilized for management of agroforestry systems.

1363 Doyle, C.J., Evans, J., and Rossiter, J., 1986. **Agroforestry: An economic appraisal of the benefits of intercroppping trees with grassland in lowland Britain.** Agricultural Systems 21:1-32.
"The object of the study is to assess the economic implications of combining grassland management with open plantations of trees on the same area." (p. 1)

1364 FAO Forestry Department, 1985. **Changes in shifting cultivation in Africa: Seven case studies.** FAO Forestry Paper 50/1. 185 pp.

1365 Hans, A.S., 1985. **The importance of agroforestry research in Zambia.** International Tree Crops Journal 3:101-111.

1366 MacLean, J.T., 1986. **Agroforestry 1982-85.** U.S. Dept. of Agriculture, National Agricultural Library, Quick Bibliography Series NAL-BIBL. QB86-73. 18 pp.
Includes 213 citations obtained by searching the database AGRICOLA. Updates QB85-06.

1367 Myers, N., 1986. **Forestland farming in western Amazonia: Stable and sustainable.** Forest Ecology and Management 15:81-93.
"Forest farmers are...the number one agent in the depletion of tropical forests. ...these farmers impose on forestlands a type of agriculture that is essentially unsustainable... In the face of this situation, there is urgent need to develop agricultural systems that are both stable and sustainable." (p. 81)

1368 Roche, L., 1986. **Forestry and famine: Arguments against growth without development.** Commonwealth Forestry Review 65:99-108.
The author concludes that "Forestry in all its ramifications must become an integral part of agricultural development in African states in the future." (p. 108)

1369 Ross, M.S., 1984. **Towards a farm model for sustainable**

low-input agroforestry systems in the humid tropics with reference to Indonesia. International Tree Crops Journal 3:49-61.

"The aim of this paper is to suggest a possible farm model for agroforestry systems that can be sustainable on marginal lands in the humid tropics and yet require relatively low inputs." (p. 49)

1370 Zabala, N.O., Cortes, E.V., and Antone, M.S., 1986. Supportive agroforestry to reforestation. Philippine Lumberman 32(1):26-33.

One of the conclusions is that "agroforestry practice is ecologically as well as economically advantageous." (p. 33) Includes a table showing return per peso investment and break-even point of agroforestry farms in 6 project sites.

1371 Zimmerman, T., 1986. Agroforestry--a last hope for conservation in Haiti? Agroforestry Systems 4:255-268.

SECTOR ANALYSIS

1372 Blake, G. and Bourke, M., 1985. **Queensland forestry--a sector profile.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November, 14-15, 1985. Queensland Department of Forestry, Brisbane. 11 pp. + statistical appendices.

A description of the forestry sector in Queensland. (HB)

1373 Booth, D.L., 1985. **An evaluation of the British Columbia Forest Sector Model.** University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 85-4. 41 pp.

1374 Caribbean Development Bank and Deutsche Forstinventur Service, 1984. **Regional forestry sector study: Final report.** Barbados. 38, 15, 193 pp.

The report of a regional forestry sector study of 16 English speaking countries in the Caribbean funded by the Commission of European Communities. No publishing information given. Includes a separate 18 page supplement: "Project proposals for Bahamas and Turks and Caicos."

1375 Hosokawa, T., 1985. **Regional characteristics of Soviet forestry production.** Wellington, New Zealand Forest Service, Dept. of Internal Affairs, Translation Service. 19 pp.

Translated from the Japanese: Ringyo Keizai (Forest Economy) 31 (6 no. 356):18-29, 1978. Original attached with English annotations. Includes a survey of the Soviet forest industry followed by an "analysis according to region." The author's main aim is to clarify the relationship between forest resources and forestry production.

1376 Hourigan, M. and Kennedy, I., 1985. **Review of sector multipliers: Forestry, logging and wood processing.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November 14-15, 1985. Queensland Department of Forestry, Brisbane. 48 pp.

The authors discuss the derivation of multipliers from input-output analysis and show estimates for forest industries in Australia. (HB)

1377 Lonnstedt, L., 1986. **A dynamic forest sector model with a Swedish case.** Forest Science 32:377-397.

"This paper presents an instrument to aid managers in their strategic planning. A mathematical description of the instrument, a long term forest model, is presented followed by an example of its use in a Swedish case." (p. 377)

1378 Raumolin, J., 1986. **Recent trends in the development of the forest sector in Finland and Eastern Canada.** Helsinki, Elinkeinoelaman Tutkimuslaitos, Keskusteluaiheita (Research

Institute of the Finnish Economy, Discussion Papers) no. 206. 40 pp.

Paper presented to "Canada and Europe Today," the 6th annual Conference of the Association for Canadian Studies in the German Speaking Countries, Grainau, FRG, Feb. 13-16, 1986.

1379 Raumolin, J., 1985. **The impact of forest sector on economic development in Finland and Eastern Canada.** In: Natural Resources Exploitation and Problems of Staples-Based Industrialization in Finland and Canada. Fennia 163:395-437.

1380 Schwindt, R.W. and McDaniels, T., 1985. **An analysis of vertical integration and diversification strategies in the Canadian forest sector.** University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 85-5. 79 pp.

1381 Wallace, T.D. and Newman, D.H., 1986. **Measurement of ownership effects of forest productivity in North Carolina from 1974 to 1984.** Canadian Journal of Forest Research 16:733-738.

"The objective of this paper is to present a method for examining regional forestry production using the North Carolina forestry sector as an example." (p. 733)

1382 White, W., Netzel, B., Carr, S., and Fraser, G.A., 1986. **Forest sector dependence in rural British Columbia 1971-1981.** Pacific Forestry Centre, Information Report BC-X-278. 32 pp.

The first section of the report categorizes all incorporated communities, territorial subdivisions, and unincorporated communities in B.C. by degree of forest sector dependence based on forest sector labor force. The second section of the report contains an analysis of the differences in the 1971 and 1981 findings. (p.6)

PROFESSIONAL ACTIVITIES, EDUCATION, EMPLOYMENT OF FORESTERS

1383 Barker, J.R., 1986. **Range management curriculum development and counterpart training at Somali National University.** In: O'Rourke, J.T., ed. Proc. 1986 International Rangeland Development Symposium. pp. 31-35.

1384 Blackmon, B.G. and Akin, J.H., 1986. **Elective courses in forestry curricula.** Journal of Forestry 84(7):46-48.

1385 Easley, A.T., Roggenbuck, J.W., and Ratz, J., 1986. **Wilderness education at NOLS: Student outcomes and correlates of perceived instructor effectiveness.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 377-384.

The objective of this research was "to determine what the graduates of a standard 5-week National Outdoor Leadership School (NOLS) course perceive to be the principal gains from the course." (p. 377)

1386 Indiana Forestry and Woodland Owners Association, Inc., 1986. **Directory of Indiana consultant foresters.** Indianapolis, Indiana Forestry and Woodland Owners Assoc., Inc. 14 pp.

1387 Winterbottom, R.T. and Lineham, P.E., 1986. **The Dinderesso Forestry School: Case study of extension forestry training in Burkina Faso.** Rural Africana 23/24:107-114.

RESEARCH EVALUATION AND METHODOLOGY

1388 Cale, W.G. and McKown, M.P., 1986. **A cost analysis technique for research management and design.** Environmental Management 10:89-96.

"This article takes the view that research should not be undertaken unless there is assurance that final results will be significant to a level specified before any work is begun." (p. 89)

1389 Erickson, J.R., 1986. **Trends and outlook for federal support for utilization research.** Wood and Fiber Science 18:490-497.

1390 Haxby, T.S., 1984. **The returns to public investments in forestry research and development for sawmills and planing mills.** Masters thesis, Duke University School of Forestry and Environmental Studies. 44 pp.

The paper focuses attention on research carried out by public agencies with resultant knowledge disseminated to private industry, often through extension facilities.

1391 Pfister, R.D. and Fiedler, C.E., 1986. **Montana's Mission-Oriented Research Program.** Western Journal of Applied Forestry 1:11-12.

"In 1981 the Montana Legislature appropriated funds to establish the Mission-Oriented Research Program (MORP) within the Montana Forest and Conservation Experiment Station." (p. 11)

1392 Phillips, W.E., Beck, J.A., and Lamble, G.W., 1986. **Forest economics research needs in west-central Canada.** Forestry Chronicle 62:152-158.

1393 Thorud, D.B., 1986. **Futures in forestry research--what role the nation's forestry schools?** Syracuse, State University of New York, College of Environmental Science and Forestry, Faculty of Forestry Miscellaneous Publication 11 (ESF86-003). 29 pp.

Third C.E. Farnsworth Memorial Lecture and Fellowship, March 18, 1986.

TECHNOLOGY TRANSFER AND EXTENSION

1394 Cubbage, F.W., 1985. **Physical and marketing effectiveness of educational and technical assistance.** In: Stevens, W.B., ed. A focused discussion of assistance and incentives for private forest owners. pp. 17-22.

1395 Engelhard, R.J., 1986. **Development and extension strategy of the Kenya Woodfuel Development Programme.** BOS Nieuwsletter 5(2/3,14):14-28.
This article describes the work of the KWDP towards developing a self-sustaining system of tree planting to contribute to fuelwood supplies in Kakamega District of Kenya.

1396 Haymond, J.L., 1985. **Diffusion of silvicultural innovations in the nonindustrial private forestland owners social system: A study of opinion leaders.** Ph.D. thesis, Clemson University; Ann Arbor, MI, University Microfilms International. 151 pp.
"This study uses established diffusion of innovations research of social scientists to develop similar methodology for improving silvicultural technology transfer from foresters to private forestland owners." (abstract)

1397 Hodges, D.G. and Cubbage, F.W., 1986. **A survey of forestry consulting services provided to nonindustrial private landowners in Georgia.** Georgia Agricultural Experiment Station, Research Report no. 490. 41 pp.
"The survey was conducted in 1984 to determine the 1983 services and accomplishments of consulting foresters on NIPF lands in Georgia." (p. 1)

1398 Huizinga, B., 1986. **Changing perceptions in extension: Implications for the development of extension strategies in the Third World.** BOS Nieuwsletter 5(2/3,14):42-54.
Translated from the original Dutch by Simon Rietbergen.

1399 Pater, C. de, 1986. **Forestry extension in the community forestry development project, Nepal.** BOS Nieuwsletter 5(2/3,14):5-13.
This article "describes the various steps which were taken to develop a comprehensive training and extension programme in support to community forestry development." (p. 5)

1400 Visser, P., 1986. **Forestry extension in Burkina Faso: The example of the Bois de Villages Project.** BOS Nieuwsletter 5(2/3,14):29-41.
Since 1979 the Dutch government has supported a village woodlot program in Burkina Faso in Upper Volta.

ENVIRONMENTAL CONCERNS

1401 Allen, J.C. and Barnes, D.F., 1985. **The causes of deforestation in developing countries.** Annals of the Association of American Geographers 75(2):163-184.
"Results indicate that in the short term, deforestation is due to population growth and agricultural expansion, aggravated over the long term by wood harvesting for fuel and export." (p. 163)

1402 Bosshard, W., 1986. **[The forest decline as seen before the political background of an affluent people.]** Forstwissenschaftliches Centralblatt 105:81-86.
In German with English summary. "Responsibility for the reduction of air pollution rests with the state authorities. The state has only insufficient leadership means to cope with emergencies." (p. 86)

1403 Clarke, S., 1986. **Forestry in Zambia.** Quarterly Journal of Forestry 80:174-176.
Zambia is one of the most urbanized countries in Africa. The need of the people for fuelwood is endangering the nation's forest resources.

1404 Dwyer, L., 1986. **Environmental policy and the economic value of human life.** Journal of Envirnomental Management 22:229-243.
The author questions what contribution the economist can make to the valuation of human life in the context of proposed regulatory controls on hazardous substances.

1405 FAO, 1982. **Conservation and development of tropical forest resources.** FAO Forestry Paper 37. 122 pp.
Based on FAO/UNEP/Unesco Expert Meeting on Tropical Forests, Rome, Jan. 12-15, 1982. This meeting "noted the worldwide concern at the rapid destruction of tropical forest cover...and recommended appropriate action at the national and international levels." (p. vii)

1406 Gorse, J., 1985. **Desertification in the Sahelian and Sudanian zones of West Africa.** Unasylva 37(4)(150):2-18.
The author argues that interactions between droughts and human abuse of the environment are the primary cause of the current crisis in the Sahel.

1407 Horn, P.J., 1986. **Environmental constraints on the availabiltiy and production of wood for industry in New Zealand.** Appita 39:184-186.

1408 Mayda, J., 1986. **Forest management and the environment: Worldwide trends in legislation and institutional arrangements.** Forest Ecology and Management 14:241-257.

1409 Myers, N., 1986. **Environmental repercussions of deforestation in the Himalayas.** Journal of World Forest Resource Management 2:63-72.

"This paper reviews trends in population growth and deforestation in the Himalayan regions of India and Nepal." (p. 63)

1410 Roper, J. and Thirgood, J.V., 1986. **The tropical forest-problems and solutions.** Forestry Chronicle 62:194-201.

This article examines the tropical forest resource, the causes and consequences of deforestation, and possible courses of action.

1411 Shane, D.R., 1986. **Hoofprints on the forest: Cattle ranching and the destruction of Latin America's tropical forests.** Philadelphia, Institute for the Study of Human Issues. 159 pp.

SOCIAL IMPACTS

1412 Daniel, T.C., 1985. **Modeling social impacts of forest management.** In: Sanders, C.J. et al., eds. Recent advances in spruce budworms research. pp. 255-256.

Discusses the Integrated Pest Impact Assessment System (IPIAS) program and its goal of promoting the development of models for assessing social impacts and incorporating them in forest planning. Recreation, tourism, and public perception of scenic beauty are included in the IPIAS development plan.

1413 Wenner, L.N., 1986. **Social impact analysis in retrospect: Was it useful?** U.S. Forest Service, Office of Environmental Coordination. 16 pp.

Paper presented at the Annual Conference of the International Association for Impact Assessment, Philadelphia, May 29-30, 1986.

1414 Wenner, L.N., 1986. **The practice and promise of social science in the Forest Service.** U.S. Forest Service, Environmental Coordination. 22 pp.

Paper prepared for the First National Symposium on Social Science in Resource Management, Oregon State University, Corvallis, Oregon, May 12-16, 1986.

1415 White, W.B., Daniel, T.C., and Buhyoff, G.J., 1985. **Integrating social impacts assessment into forest management and planning.** In: Sanders, C.J. et al., eds. Recent advances in spruce budworms research. pp. 259-260.

SOCIAL SCIENCES APPLIED TO FOREST MANAGEMENT

GENERAL - MULTIPLE USE

1416 Bol, G.R. and Leek, N.A., 1985. **Forest operations and changing management practices.** In: Oswald, M., ed. Human impacts on forests. pp. 299-310.

A discussion of the impact on forest operations of silvicultural management systems other than the clear-felling system. Two alternative systems discussed are the shelterwood system and the group selection system.

1417 Plumtre, R.A. and Earl, D.E., 1986. **Integrating small industries with management of tropical forest for improved utilisation and higher future productivity.** Journal of World Forest Resource Management 2:43-55.

"Techniques developed in Uganda and Ghana are described by which small industries such as charcoal making, fuelwood production and mobile sawmilling, were used to increase utilisation of moist tropical forest." (p. 43)

1418 Savage, R., 1983. **The management of semi-natural woodland.** Winchester, UK, County Planning Officers' Society. 30 pp.

A basic guide. Includes a section on costs.

1419 Smith, H.C. and Eye, M.C., editors, 1986. **Guidelines for managing immature Appalachian hardwood stands: Workshop proceedings.** Morgantown, West Virginia, West Virginia University Books. SAF Publications 86-02. 283 pp.

Proceedings of a workshop held in Morgantown, West Virginia, May 28-30, 1986 and sponsored by: West Virginia University, Division of Forestry; West Virginia University, Cooperative Extension Service, U.S. Forest Service, Northeastern Forest Experiment Station, and the Allegheny Society of American Foresters.

1420 Sun, O., 1986. **[Multiple-use forestry by regional basis.]** Ormancilik Arastirma Enstitusu Yayinlari, Teknik Bulten Serisi no. 164. 64 pp.

In Turkish, with English summary. "In this study the Goal Programming was employed for the multiple-use forestry activities on regional basis." (p. 63)

OWNERSHIP - PUBLIC LANDS

1421 Deacon, R.T. and Johnson, M.B., editors, 1985. **Forestlands: Public and private.** San Francisco, Pacific Institute for Public Policy Research; Cambridge, Ballinger Publ. Co. Pacific Studies in Public Policy. 332 pp.

A collection of papers relating to public land management. All papers are indexed in this issue.

1422 Deacon, R.T., 1985. **The simple analytics of forest economics.** In: Deacon, R.T. and Johnson, M.B., eds. Forestlands: Public and private. pp. 275-302.

"An economic anaysis of the costs and benefits of alternative strategies is necessary for evaluating management policy on public forests." (p. 276)

1423 Nelson, R.H., 1985. **Mythology instead of anlysis: The story of public forest management.** In: Deacon, R.T. and Johnson, M.B., eds. Forestlands: Public and private. pp. 23-76.

"This paper tells the story of public forest management, focusing on the conflict between two very different outlooks--that of the professional forester and that of the professional economist." (p. 24)

The following reference should have been included under "Subsidization."

1424 Stevens, W.B., editor, 1985. **A focused discussion of assistance and incentives for private forest owners: Proceedings of a special meeting of the Michigan Forest Products Industry Development Council held July 11, 1985.** 116 pp.

No publishing information given. Selected papers are indexed.

PRIVATE OWNERSHIP

1425 Carpenter, E.M, Hansen, M.H., and St. John, D.M., 1986. **The private forest landowners of Minnesota--1982.** U.S. Forest Service, Resource Bulletin NC-95. 55 pp.
"Presents the results of a mail canvass of nonindustrial private forest landowners in Minnesota to relate owner attitudes and intentions concerning ownership, management, harvest and recreational use of their forest property."

1426 Carpenter, E.M. and Hansen, M.H., 1985. **The private forest landowners of Michigan.** U.S. Forest Service, Resource Bulletin NC-93. 55 pp.
"Estimates the number and distribution of nonindustrial private forest landowners in Michigan by size class and owner attitudes and objectives concerning forest ownership, management, and use." (abstract)

1427 Chavasse, C.G.R., 1985. **Forestry and the small grower: Diversification in forestry.** New Zealand Journal of Forestry 30:28-44.

1428 Christakis, A.N., 1985. **The National Forum on Nonindustrial Private Forest Lands.** Systems Research 2:189-199.
This paper presents the results of a public forum convened in St. Louis, Missouri in 1983. The forum was "designed and conducted in accordance with the principles of Interactive Management...." (p. 189)

1429 Fazio, J.R., 1985. **The woodland steward: A practical guide to the management of small private forests.** Moscow, Idaho, The Woodland Press. 211 pp.

1430 Hilliard-Clark, J. and Chesney, C.E., 1985. **Black woodland owners: A profile.** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 59. [6] pp.
Reprinted from the Journal of Forestry 83(11):674-679. The authors constructed a profile of black woodland owners in North Carolina based on their experiences in forest management.

1431 Holmes, W.D. and Todd, J.D., 1986. **Economic survey of private forestry income and expenditure Scotland 1984.** University of Aberdeen, Department of Forestry. 40 pp.

1432 Kalisz, S., 1986. **The Cadillac Pilot Project: Reaching private landowners in Michigan.** National Woodlands 9(4):10-11.
"One of the major goals of CPP is to increase the productivity of Michigan's non-industrial private forests consistent with landowner objectives." (p. 10)

1433 McCurdy, D.R. and Mercker, D.C., 1986. **A comparison of private**

forested tracts in southern Illinois, 1977 and 1985. National Woodlands 9(5):8-10.

1434 Savage, M., 1983. **Small woods on farms: Report of a symposium on the profitable and responsible management of small woodlands on farms, held at the Commonwork Centre, Bore Place, 6-7 July, 1983.** Edenbridge, Kent, Society for the Responsible Use of Resources in Agriculture and on the Land, RURAL Report no. 2. 20 pp.

1435 Savage, M., editor, 1984. **Small woods: Money, management and misapprension: The economic and ecological consequences of the management of small woods.** Edenbridge, Kent, Society for the Responsible Use of Resources in Agriculture and on the Land, and University of Kent, School of Continuing Education. RURAL Report no. 5. 28 pp.

Report of a course held at Darwin College, University of Kent, at Canterbury, March 30-April 1, 1984.

1436 Vaux, H.J., 1984. **The development of private forest management in California, 1920-1983: An evolution of constituencies.** Western Wildlands 10(1):14-18.

LABOR CONSIDERATIONS-WORK STUDIES

1437 Holmes, W.D. and Todd, J.D., 1986. **Employment in private forestry in Scotland during 1984.** University of Aberdeen, Department of Forestry, Economic Surveys of Private Forestry. 30 pp.

The objects of the survey were: (1) to estimate the number of people employed in the private sector of forestry in Scotland in 1984; (2) to determine the activities of forest workers; (3) to compare 3 types of estate; and (4) to compare the results of this survey with those of a 1974 survey. (p. 2)

1438 Ilter, E., Cakir, M., and Yuksel, S., 1986. **[Determination of the work studies and its unit costs related to all activities from the harvesting to selling of industrial and fuelwood....]** Ormancilik Arastirma Enstitusu Yayinlari, Teknik Bulten Serisi no. 158. 72 pp.

In Turkish, with English summary. "The objective of this study is the preparation of work study covering all work from harvesting to selling based on a management plan unit (Buyukduz Forest Research Compartment) and the determination of its unit cost." (p. 62)

1439 Juntunen, M.-L., 1986. **[The time expenditure and work tasks of forest functionaries: A part study of joint Nordic NSR project "The organization of work in forestry".]** Folia Forestalia no. 643. 27 pp.

In Finnish with English summary. "The time expenditure on certain predetermined jobs of forest functionaries was studied by mailing them a comprehensive questionnaire for completion."

PROTECTION

1440 Alston, R.M., 1985. **Economic analysis: How to play with fire without getting burned.** In: Long, J.N., ed. Fire management: The challenge of protection and use. pp. 35-41.
The author warns "of the limitations inherent in the use of economic efficiency analysis."

1441 Ball, J., 1986. **Public perception of an integrated pest management program.** Journal of Arboriculture 12:135-140.
An analysis of the public perception of IPM was conducted using single-family residences in Mankato, Minnesota.

1442 Baumgartner, D.M. and Mitchell, R., editors, 1984. **Silvicultural management strategies for pests of the interior Douglas-fir and grand-fir forest types: Proceedings of a symposium, Spokane, Washington, 1984.** CANUSA; Society of American Foresters, Silviculture Working Group; and Washington State University, Cooperative Extension and Dept. of Forestry and Range Management. 199 pp.
Selected articles are indexed in this issue.

1443 Bible, T.D., 1985. **Economic considerations for spruce budworm management in North America.** In: Sanders, C.J. et al., eds. Recent advances in spruce budworms research. pp. 176-187.
"The focus of this paper is on nonbiomass impacts of budworm, their evaluation, and selection of management options." (p. 176)

1444 Cleaves, D.A., 1985. **Net value changes in fire management: Issues and application problems.** In: Long, J.N., ed. Fire management: The challenge of protection and use. pp. 43-61.

1445 Cohan, D., Haas, S.M., Radloff, D.L., and Yancik, R.F., 1984. **Using fire in forest management: Decision making under uncertainty.** Interfaces 14(5):8-19.
Decision analysis is used to plan and manage fires used in managing three national forests.

1446 Cuff, W. and Walker, H.D., 1985. **Integration of forest management and pest management in the eastern provinces of Canada.** In: Sanders, C.J. et al., eds. Recent advances in spruce budworms research. pp. 443-464.

1447 Davis, J.R., Hoare, J.R.L., and Nanninga, P.M., 1986. **Developing a fire management expert system for Kakadu National Park, Australia.** Journal of Environmental Management 22:215-227.

1448 Flowers, P.J., Shinkle, P.B., Cain, D.A., and Mills, T.J., 1985. **Timber net value and physical output changes following wildfire in the northern Rocky Mountains: Estimates for**

specific fire situations. U.S. Forest Service, Research Paper PSW-179. 25 pp.

"One of the major economic effects of wildfire is the change in the net value of timber. Estimates of these changes were calculated for a wide range of fire situations in the northern Rocky Mountains of the United States. The results are presented in reference tables." (Abstract)

1449 Gonzalez-Caban, A., 1985. **A technique for estimating fire suppression forces costs.** In: Long, J.N., ed. Fire management: The challenge of protection and use. pp. 71-84.

1450 Hart, J.H., Baughan, R., and Jennings, N.E., 1986. **Economic impact of decay on black walnut.** Northern Journal of Applied Forestry 3:116-118.

"Total volume, volume loss caused by decay, total value, and value loss to decay were determined for 920 black walnut trees during harvest in Nebraska, Iowa, Kansas, Minnesota, and Wisconsin." (p. 116)

1451 Hatch, J.H. and Jarrett, F.G., 1985. **The economics of fire control/suppression.** In: Healy, D.T. et al., eds. The economics of bushfires. pp. 89-115.

1452 Healy, D.T., Jarrett, F.G., and McKay, J.M., editors, 1985. **The economics of bushfires: The South Australian experience.** Adelaide, Center for South Australian Economic Studies; Melbourne, Oxford University Press. 152 pp.

This book is a collection of eight studies of different aspects of bushfire problem in South Australia. The studies include input-output analysis of the Ash-Wednesday fires to the government, insurance aspects, and economics of fire suppression/control. Selected articles are indexed in this section. (HB)

1453 Lee, D.Q., 1985. **Insurance aspects of bushfire disaster in South Australia.** In: Healy, D.T. et al., eds. The economics of bushfires. pp. 57-73.

1454 Liebhold, A.M., Berck, P., Williams, N.A., and Wood, D.L., 1986. **Estimating and valuing western pine beetle impacts.** Forest Science 32:325-338.

"This study developed a methodology for evaluating the impact of WPB on timber values." (p. 326)

1455 Long, J.N., editor, 1985. **Fire management: The challenge of protection and use.** Proceedings of a symposium, Logan, Utah, 1985. Sponsored by: Utah State Univ., Dept. of Forest Resources; Intermountain Society of American Foresters; Intermountain Region, U.S. Forest Service; and National Wildfire Coordinating Group. 286 pp.

1456 MacLean, D.A., 1985. **Effects of spruce budworm outbreaks on forest growth and yield.** In: Sanders, C.J. et al., eds. Recent advances in spruce budworms research. pp. 148-175.
The author's emphasis is "on influences of budworm on the wood-producing capacity of the forest and on forest management planning...." (p. 148)

1457 Mules, T.J., 1985. **An input-output analysis of the Ash Wednesday bushfires.** In: Healy, D.T. et al., eds. The economics of bushfires. pp. 15-27.

1458 Omi, P.N., Teeter, L.D., and Dyer, A.A., 1985. **The National Fire Management Analysis System and Fire Economics Evaluation System: A comparative analysis.** In: Long, J.N., ed. Fire management: The challenge of protection and use. pp. 63-70.
The NFMAS and FEES were developed to improve the economic efficiency of fire management programs in the U.S. Forest Service. This paper compares the two systems.

1459 Potts, D.F., Peterson, D.L., and Zuuring, H.R., 1985. **Watershed modeling for fire management planning in the northern Rocky Mountains.** U.S. Forest Service, Research Paper PSW-177. 11 pp.
"Two simulation models were adapted to estimate postfire changes in water yield and sediment production in northern Rocky Mountain watersheds." "This simulation approach can be useful to managers who need to estimate long-term changes in water yield and value caused by wildfire." (Abstract)

1460 Sanders, C.J., Stark, R.W., Mullins, E.J., and Murphy, J., editors, 1985. **Recent advances in spruce budworms research: Proceedings of the CANUSA Spruce Budworms Research Symposium, Bangor, Maine, Sept. 16-20, 1984.** Ottawa, Canadian Forestry Service. 527 pp.
Sponsored by Canadian Forestry Service and U.S. Forest Service in cooperation with Entomological Society of America, Society of American Foresters, Canadian Institute of Forestry, and University of Maine. Selected papers are indexed in this issue.

1461 Saveland, J.M., 1985. **Risk in fire management.** In: Long, J.N., ed. Fire management: The challenge of protection and use. pp. 85-97.
The author gives an introduction to risk assessment which consists of risk identification, risk estimation, and risk evaluation.

1462 Saveland, J.M., 1986. **Wilderness fire economics: The Frank Church--River of No Return Wilderness.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 39-48.
Two of the objectives of this paper are (1) to discuss the problems involved in an economic analysis for wilderness

fire management, and (2) to compare the costs and area burned for four alternative fire management strategies.

1463 Simmons, G.A. and Montgomery, B.A., 1985. **Progressing toward integrated pest management of the spruce budworm in the eastern United States.** In: Sanders, C.J. et al., eds. Recent advances in spruce budworms research. pp. 418-442.

1464 Smith, E.L., 1985. **Calculating economic efficiency with cost plus net value change using fire simulation models.** In: Long, J.N., ed. Fire management: The challenge of protection and use. pp. 99-113.

The author explains "the theory of the economic analysis being used in fire planning, and how the structure of the simulation model used interacts with the economic components." (p. 99)

1465 Stage, A.R., 1985. **Integration of forest and pest management: Implications for forest management--the western view.** In: Sanders, C.J. et al., eds. Recent advances in spruce budworms research. pp. 465-469.

1466 Stark, R.W., 1984. **Integrated forest protection: Implication for forest management.** In: Baumgartner, D.M. and Mitchell, R., eds. Silvicultural management strategies for pests of the interior Douglas-fir and grand fir forest types. pp. 117-119.

1467 Taylor, J.G. and Mutch, R.W., 1986. **Fire in wilderness: Public knowledge, acceptance, and perceptions.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 49-59.

1468 Taylor, J.G. et al., 1986. **Recreation and fire management: Public concerns, attitudes, and perceptions.** Leisure Sciences 8:167-187.

Co-authors are H.J. Cortner, P.D. Gardner, T.C. Daniel, M.J. Zwolinski, and E.H. Carpenter. The three studies reviewed show that "the public views recreation as an important element in multiple-use forest management and that recreational quality is intricately intertwined with fire management practices." (p. 185)

1469 Thomson, N., 1985. **The South Australian bushfire cost to government.** In: Healy, D.T. et al., eds. The economics of bushfires. pp. 28-40.

1470 Waters, W.E., 1986. **A comprehensive approach to monitoring in management systems for forest pests.** Forest Ecology and Management 15:3-21.

"Despite recent advances in the concept and design of integrated pest management systems for some major pest insects of forests, there has been a definite lag in the development of the monitoring required to support such systems." (p. 3)

PRODUCTION OF FOREST GOODS AND SERVICES

OUTDOOR RECREATION

1471 Arkansas Dept. of Parks and Tourism, 1985. **SCORP 85: Statewide comprehensive outdoor recreation plan, Arkansas.** 2d. ed. Arkansas Dept. of Parks and Tourism. 131 pp.

1472 Brown, T.C. and Daniel, T.C., 1986. **Predicting scenic beauty of timber stands.** Forest Science 32:471-487.
"This paper presents results of three studies related to the development of models for predicting the near-view scenic beauty of ponderosa pine timber stands in the Southwest." (p. 472)

1473 Clark, R.N. and Stankey, G.H., 1986. **Site attibutes--a key to managing wilderness and dispersed recreation.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 509-515.

1474 Connelly, N.A., Brown, T.L., and Wilkins, B.T., 1986. **Factors critical for camping satisfaction.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 389-392.

1475 Gibbons, J.D. and Fish, M., 1986. **Dynamics of the U.S. international tourism market, 1970-1984.** Journal of Travel Research 24(4):17-24.

1476 Gramann, J.H., 1983. **An ex post facto analysis of the regional economic impact of expenditures for reservoir recreation.** Journal of Environmental Management 16:357-367.
"A comparison is made between the predicted and actual economic impact of recreation expenditures at a reservoir in the state of Illinois." (p. 357)

1477 Hamill, L., 1986. **The Chubb/Bauman method for estimating the recreation potential of rivers: A critical review.** Water Resources Bulletin 22:653-659.

1478 Hammitt, W.E. and Sirohmeier, C.S., 1983. **The likelihood of public campers to use nearby private campgrounds.** Journal of Travel Research 22(1):15-17.
"One alternative to the campground demand and limited budget dilemma is for public agencies to cooperate more with nearby commercial campgrounds... This study examined the likelihood that campers at one federal park...would be willing to pay and travel to alternative facilities." The study was conducted on the Blue Ridge Parkway in Virginia and North Carolina in 1979.

1479 Harris, B.S. and Meister, A.D., 1983. **The use of recreation analysis in resource management: A case study.** Journal of Environmental Management 16:117-124.

"The paper summarizes a particular recreation analysis carried out on a lake in the North Island of New Zealand. The methodology is based on the accepted travel cost approach.... The results of the study are discussed in relation to their usefulness in resource management decision-making and applicability to cost-benefit type economic evaluations." (p. 117)

1480 Henderson, K.A. and Cooper, R., 1983. **Characteristics of campers in private and state-owned campgrounds in Wisconsin.** Journal of Travel Research 22(1):10-14.

"Knowing why people behave as they do provides a basis for planning recreation camping experiences." (p. 14)

1481 Irving, J.A., 1985. **The public in your woods: An owner's guide to managing urban-fringe woodland for recreation.** Chichester, Packard Publishing Ltd. 147 pp.

1482 Johnson, R.L. and Suits, D.B., 1983. **A statistical analysis of the demand for visits to U.S. national parks: Travel costs and seasonality.** Journal of Travel Research 22(2):21-24.

1483 Jubenville, A., 1986. **Recreational use of public lands: The role of the manager.** Journal of Park and Recreation Administration 4:53-60.

1484 Jubenville, A., Matulich, S.C., and Workman, W.G., 1986. **Toward the integration of economics and outdoor recreation management.** University of Alaska-Fairbanks, Agricultural and Forestry Experiment Station, Bulletin 68. 33 pp.

1485 Kelly, J. and Henry, W., 1986. **National recreation resources at a crossroads.** Parks and Recreation 21(7):45-50.

The authors attempt to "reassess the role of the federal government in the outdoor recreation picture." They "foresee a major federal role in the future, but quite different than in the past." (p. 46)

1486 Loomis, J., Donnelly, D., and Sorg, C., 1985. **Quantifying the economic effects of hydropower development on recreational fisheries: A case study in Idaho.** In: Symposium on Small Hydropower and Fisheries, Aurora, CA, 1985. Proceedings, Bethesda, MD, American Fisheries Society. pp. 139-144.

1487 Manning, R.E., 1985. **Studies in outdoor recreation: Search and research for satisfaction.** Corvallis, Oregon State University Press. 166 pp.

"This study attempts to develop and present a state-of-the-art body of knowledge on major outdoor recreation management and research issues." (preface)

1488 Martin, B.H., 1986. **Hikers' opinions about fees for backcountry**

recreation. In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 483-488.

1489 Martin, W.D., 1986. **A ten-year look at state park systems.** Parks and Recreation 21(7):40-44.

Includes tables showing trends on selected aspects of (U.S.) state park operations over the past 10 years, sources of generated revenue, percentage of increase in attendance, and a comparison of operating expenditures and generated revenues.

1490 Michalson, E.L. and Smathers, R.L., Jr., 1985. **Comparative estimates of outdoor recreation benefits in the Sawtooth National Recreation Area, Idaho.** University of Idaho, Dept. of Agricultural Economics, A.E. Research Series no. 249. 24 pp.

"...attempts were made to compare demand estimates derived using both the travel cost and the contingent value methods of estimating the net value of outdoor recreation."

1491 Mitchell, R.G., Jr., 1983. **Mountain experience: The psychology and sociology of adventure.** Chicago, University of Chicago Press. 272 pp.

1492 Molnar, D.J. and Rutledge, A.J., 1986. **Anatomy of a park: The essentials of recreation area planning and design.** 2d edition. New York, McGraw-Hill Book Co. 190 pp.

1493 Munro, N., 1985. **Growing demands for recreation and leisure in forests.** In: Oswald, M., ed. Human impacts on forests. pp. 151-166.

Gives a brief history of the evolution and significance of forest recreation followed by a review of the factors which influence forest recreation participation in the 1980's. These are classified and discussed within three categories: personal factors, resource factors and management factors.

1494 Organization of American States, and George Washington University, 1983. **The perceptual and sociocultural dimensions of the tourism environment: An annotated bibliography.** Washington, D.C., Organization of American States, Dept. of Economic Affairs, International Trade and Tourism Division. 123 pp.

"This publication reflects the ever increasing need to understand how people live, perceive, and act in a society made more complex by the phenomenon of domestic and international tourism." (p. i)

1495 Parliament, C. and Merchant, J.P., 1986. **Effects of environmental change on recreation use and value: An application to offshore rigs in California.** Univeristy of Minnesota, Dept. of Agricultural and Applied Economics, Staff Paper P86-34. 21 pp.

"This paper describes a method of assessing the effect of environmental change on the use and value of a system of recreational sites." (p. 1)

1496 Peterson, G.L. and Stynes, D.J., 1986. **Evaluating goodness of fit in nonlinear recreation demand models.** Leisure Sciences 8:131-147.

1497 Rosenthal, D.H. and Walsh, R.G., 1986. **Hiking values and the recreation opportunity spectrum.** Forest Science 32:405-415.

"The contingent valuation technique is used to estimate the net economic value of hiking and backpacking in a National Forest in the Front Range of the Colorado Rockies. The study is based on on-site interviews of 202 hikers, conducted during the summer of 1981." (p. 405)

1498 Rovelstad, J.M. and Blazer, S.R., 1983. **Research and strategic marketing in tourism: A status report.** Journal of Travel Research 22(2):2-7.

"This article reports a study of the status of marketing research in the travel and tourism industry in the U.S." (p.2)

1499 Sampson, N., 1986. **Assessing the availability of private lands for recreation.** Parks and Recreation 21(7):34-38, 59.

1500 Schreiner, D.F., Willett, D.A., Badger, D.D., and Antle, L.G., 1985. **Recreation benefits measured by travel cost method for the McLellan-Kerr Arkansas River navigation system and application to other Corps lakes.** U.S. Army Corps of Engineers, Institute for Water Resources. 83 pp. + appendices.

1501 Shih, D., 1986. **VALS as a tool of tourism market research: The Pennsylvania experience.** Journal of Travel Research 24(4):2-11.

VALS analysis, the study of consumer values and lifestyles, as a marketing tool had not been fully explored by researchers in the travel industry prior to this study.

1502 Tips, W.E.J. and Savasdisara, T., 1986. **Landscape preference evaluation and the level of abstraction of landscape presentation media.** Journal of Environmental Management 22:203-213.

"The evaluation of scenic landscapes presented as line drawings with different levels of abstraction was tested using Asian subjects." (p. 203)

1503 VanHorne, M.J., Szwak, L.B., and Randall, S.A., 1986. **1982-1983 Nationwide Recreation Survey.** U.S. National Park Service. 95 pp.

This publication "is the latest in an irregular series of interview surveys of the American public dating back to the 1960 National Recreation Survey.... Like the earlier efforts, this survey provides current information on what Americans do for recreation in the outdoors and on their perceptions and aspirations with respect to recreation opportunities." (p. iii)

WILDERNESS MANAGEMENT-NATURE CONSERVATION-NATIONAL PARKS

1504 Absher, J.D. and McAvoy, L.H., 1986. **Wilderness values in de facto wilderness: Management policy perceptions of managers and commercial users.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 348-353.
"This paper reports perceptions of individuals with close, firsthand knowledge of the Upper Mississippi River (UMR) de facto wilderness." (p. 348)

1505 Anderson, D.H. and Manfredo, M.J., 1986. **Visitor preferences for mangement actions.** In; Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 314-319.

1506 Ashor, J.L., 1986. **Criteria and guidelines for using the transactive planning approach in wilderness management planning.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 550-552.

1507 Ashor, J.L., McCool, S.F., and Stokes, G.L., 1986. **Improving wilderness planning efforts: Application of the transactive planning approach.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 424-431.

1508 Barrick, K.A., 1986. **Option value in relation to distance effects and selected user characteristics for the Washakie Wilderness, northwest Wyoming.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 412-422.
"Comsumer surplus and option value are estimated for the Washakie Wilderness using the contingent valuation technique." (p. 412)

1509 Bratton, S.P., 1986. **Battling Satan in the wilderness: Antagonism, spirituality, and wild nature in the four Gospels.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 406-411.
"This study considers the relationship of events in the four Gospel to wild nature, cultivated and developed sites." (p. 406)

1510 Fedler, A.J. and Kuss, F.R., 1986. **An examination of the effects of wilderness designation on hiker attitudes.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 308-313.
"Effects on hikers of changing the management designation of an area from backcountry to wilderness were examined." (p. 308)

1511 Graefe, A.R., Donnelly, M.P., and Vaske, J.J., 1986. **Crowding and specialization: A reexamination of the crowding model.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 333-338.
The authors examine "traditional crowding models relative to different groups of individuals practicing a specific recreation activity in a particular setting." (p. 337)

1512 Graefe, A.R., Kuss, F.R., and Loomis, L., 1986. **Visitor impact management in wildland settings.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 432-439.
"This paper demonstrates a process for the effective management and reduction of visitor impacts in backcountry recreation settings." (p. 432)

1513 Hammitt, W.E., McDonald, C.D., and Hughes, J.L., 1986. **Experience level and participation motives of winter wilderness users.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 269-277.

1514 Kelly, J.R., 1986. **Investment theory: Long-term benefits.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 393-397.
"The history of attempts to place an economic value on nonmarket goods such as public recreation resources has been marked by measurement, method, and outcome inconsistencies." (p. 393)

1515 Lucas, R.C., 1986. **Influence of visitor experience on wilderness recreation trends.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 261-268.

1516 Lucas, R.C., 1986. **Visitor trend survey data in relation to the LAC process.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 535-537.

1517 Lucas, R.C., compiler, 1986. **Proceedings--National Wilderness Research Conference: Current Research, Fort Collins, CO, 1985.** U.S. Forest Service, General Technical Report INT-212. 553 pp.
Includes over 70 reports of current research relating to wilderness resources and wilderness users. Selected papers are indexed in this section.

1518 Mackintosh, B., 1986. **Interpretation in the National Park Service: A historical perspective.** U.S. National Park Service, History Division. 117 pp. + illus.

1519 Manning, R.E., 1986. **Density and crowding in wilderness: Search and research for satisfaction.** In: Lucas, R.C., comp.

Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 440-448.

This paper reviews the literature examining crowding and its relationship to visitor satisfaction in wilderness.

1520 McCool, S.F., Ashor, J.L., and Stokes, G.L., 1986. **An alternative to rational-comprehensive planning: Transactive planning.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 544-545.

1521 Merriam, L.C., 1986. **Nearly a quarter of a century in the Bob Marshall Wilderness (1960-1984).** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 253-260.

"Studies of visitation and users in Montana's Bob Marshall Wilderness were compared over the period 1960 to 1984." (p. 253)

1522 Nash, R., 1986. **Wilderness values and the Colorado River.** In: Weatherford, G.D. and Brown, F.L., eds. New courses for the Colorado River. Albuquerque:University of New Mexico Press. pp. 201-214.

1523 Stankey, G.H., 1986. **Dispersed recreation use and users in Kosciusko National Park, Australia: A profile and comparison with the United States.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 287-296.

1524 Tips, W.E.J. and Savasdisara, T., 1986. **Landscape preference evaluation and sociocultural background: A comparison among Asian countries.** Journal of Environmental Management 22:113-124.

"The evaluation of landscape photographs by groups of subjects from Nepal, Thailand, Sri Lanka, the Republic of China, Bangladesh, Indonesia, a group of Western tourists, and a group of Thai Chinese subjects was established by the use of landscape preference metrics." (p. 113)

1525 U.S. General Accounting Office, 1986. **National Parks: Law enforcement capability and cost comparisons at two recreation areas.** U.S. General Accounting Office. 85 pp.

The provision of visitor and resource protection at Gateway and Golden Gate National Recreation Areas was studied.

1526 Walsh, R.G., Loomis, J.B., and Gillman, R.A., 1986. **How much wilderness to protect?** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 370-376.

"The purpose of this paper is to illustrate a procedure for estimating the preservation value of increments in wilderness protection using the contingent valuation approach..." (p. 370)

1527 Walsh, R.G., Sanders, L.D., and Loomis, J.B., 1986. **Public benefits of wild and scenic rivers.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 363-369.

"The purpose of this paper is to illustrate how to measure the economic benefits and costs of rivers to the general public." (p. 363)

1528 Warren, G.A., 1986. **Activities, attitudes, and management preferences of recreationists on the Arctic National Wildlife Range, Alaska.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 278-286.

1529 Young, R.A. and Crandall, J., 1986. **Self-actualization and wilderness use: A panel study.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 385-388.

Self-actualization being one of the benefits of wilderness use, "the purpose of this study is to examine possible changes in self-actualization as related to extended wilderness use." (p. 385)

RANGE MANAGEMENT

1530 Bartel, P. and Visness, C., 1986. **The study of agro-pastoral systems for technical assistance: Methodology applied for use in Morocco's communal rangelands.** In: O'Rourke, J.T., ed. Proc. 1986 International Rangeland Development Symposium. pp. 1-5.

"in order for range management programs which deal with pastoral populations on communal lands to be effective, social and economic considerations should be taken into account." (p. 1)

1531 Blaisdell, J.P. and Holmgren, R.C., 1984. **Managing Intermountain rangelands--salt-desert shrub ranges.** U.S. Forest Service, General Technical Report INT-163. 52 pp.

Includes chapters on "Recommended grazing management", and "Integration of multiple uses and values."

1532 Fowler, J.M., Blake, M., and Torell, L.A., 1986. **Heterogeneity of data: Implications for a variable federal grazing fee.** Journal of Range Management 39:194-196.

"Average grazing lease prices as tabulated in the 1985 federal grazing fee review and evaluation study were found to be significantly different between some pricing regions of the study." (p. 194)

1533 Hann, W.J., 1986. **Evaluation of resource values in the Northern Region of the Forest Service.** Rangelands 8(4):159-161.

"A resource value rating is considered to be the value of a unit of land for a given resource." (p. 159)

1534 Horton, P.R. and Bailey, A.W., 1986. **Religious, social and economic factors affecting grassland improvement projects in Southern Africa.** In: O'Rourke, J.T., ed. Proc. 1986 International Rangeland Development Symposium. pp. 7-11.

Development workers with high levels of technical training must also have an awareness of the religious, social and economic factors which govern the worldview of the people with whom the agricultural development agent is working. (p. 7)

1535 Lacey, J.R. and Workman, J.P., 1986. **A comparison of average variable costs of private vs. public land ranches in southeastern Montana.** Journal of Range Management 39:290-292.

"A study was conducted in southeastern Montana to determine the effects of federal range grazing on cattle ranch average variable operating costs per animal unit." (p. 290)

1536 Lambert, D.K. and Obermiller, F.W., 1984. **Costs incurred by permittees in grazing cattle on public and private rangeland in Eastern Oregon.** Oregon State University Extension Service Special Report no. 692. 24 pp., 22 pp.

1537 McKean, J.R., Hof, J.G., Bartlett, E.T., and Taylor, R.G., 1986. **Contingent value estimates for existing federal grazing.** Colorado Agricultural Experiment Station Technical Bulletin no. TB86-1. 24 pp.

1538 O'Rourke, J.T., editor, 1986. **Proceedings of the 1986 International Rangeland Development Symposium, Orlando, Florida, Feb. 11, 1986.** Morrilton, AR, Winrock International. 146 pp.

The theme of the symposium was: "Developing successful international rangeland management programs." Selected papers are indexed in this issue.

1539 Sanderson, H.R., Meganck, R.A., and Gibbs, K.C., 1986. **Range management and scenic beauty as perceived by dispersed recreationists.** Journal of Range Management 39:464-469.

"This study was designed to determine the impact of range mangement activities on dispersed recreationists and their concept of scenic beauty." (p. 464)

1540 Taha, F.K., 1986. **Towards development of rangelands in developing countries: A case example from Kuwait.** In: O'Rourke, J.T., ed. Proc. 1986 International Rangeland Development Symposium. pp. 65-74.

1541 Torell, L.A. and McDaniel, K.C., 1986. **Optimal timing of investments to control honey mesquite.** Journal of Range Management 39:378-382.

"A general economic model to analyze optimal timing of brush control treatments and other range improvements was developed." (p. 378)

1542 Wagner, B., 1986. **Resource value ratings in relation to livestock forage values.** Rangelands 8(4):155-157.

The Bureau of Land Management "believes that resource value ratings can be a tool to aid the manager in the decision-making process." (p. 155)

1543 Workman, J.P., 1986. **Range economics.** New York, Macmillan. 217 pp.

URBAN FORESTRY

1544 Ball, J., 1986. **Urban forestry and volunteer management.** Journal of Arboriculture 12:182-184.
"Urban foresters are relying on volunteers to fulfill some of the goals of their programs." (p. 182)

1545 Davis, S.H., Jr., 1986. **Tree cases involving municipal and county trees.** Shade Tree 59:64-66.
A discussion of the legal implications involved in having hazard trees on municipal or county property.

1546 Johnston, M., 1986. **Community forestry: A question of priorities.** Arboricultural Journal 10:95-100.
"Financial constraints on urban forestry together with the lack of priority given to community forestry programmes has been responsible for keeping them small in scale or incidental to wider landscape programmes." (p. 95)

1547 Jonghe, F. de, 1986. **Arboriculture in France.** Journal of Arboriculture 12:174-177.

1548 Justice, C.L., 1986. **The concept of the urban forest as applied to Kuala Lumpur, Malaysia.** Journal of Arboriculture 12:178-181.

1549 Lien, J.N. and Buhyoff, G.J., 1986. **Extension of visual quality models for urban forests.** Journal of Environmental Management 22:245-254.
"Scenic quality models were formulated for a random sample of residential streets in Ann Arbor, Michigan." (p. 245)

1550 Mjaaland, B. and Andresen, J.W., 1986. **Amenity and service functions of Oslo's municipal forest.** Arboricultural Journal 10:101-112.
Oslomarka, Oslo's municipal forest, was created by the Oslo City Council in 1972.

1551 Profous, G.V. and Loeb, R.E., 1986. **New York City woodlands and the Special Natural Area Districts.** Arboricultural Journal 10:131-150.
"Current developments in planning and urban forestry have led to intensified woodland management and the establishment of Special Natural Area Districts." (p. 131)

WILDLIFE AND FISH

1552 Berryman, J.H., 1986. **Non-industrial forest management and utilization: The interest of the state fish and wildlife managing agencies.** Pennsylvania Forests 76(2, 489):7-8.
Discusses the value of privately owned timberland as fish and wildlife habitat.

1553 Blood, T. and Baden, J., 1984. **Wildlife habitat and economic institutions: Feast or famine for hunters and game.** Western Wildlands 10(1):8-13.
A discussion of lease or fee hunting.

1554 Brooks, R.T. and Birch, T.W., 1986. **Opportunities and constraints for wildlife habitat management on private forests of the Northeast.** Northern Journal of Applied Forestry 3:109-113.
The authors "describe the NIPF resource in the Northeast, its owners, their attitudes toward forest management, and the opportunities for and constraints to wildlife management on these lands." (p. 109)

1555 Burns, J.E., 1986. **Managing political habitat for grizzly bear recovery.** In: Proceedings--Grizzly Bear Habitat Symposium, Missoula, Montana, 1985. U.S. Forest Service, General Technical Report INT-207:2-13.
"Recovery of the grizzly has been controversial, opposition to management practices has occurred, and political involvement is intensifying." (p. 2)

1556 Christensen, A.G., 1986. **Cumulative effects analysis: Origins, acceptance, and value to grizzly bear management.** In: Proceedings--Grizzly Bear Habitat Symposium, Missoula, Montana, 1985. U.S. Forest Service, General Technical Report INT-207:213-216.
Cumulative effects analysis, as applied on the Kootenai National Forest, "assesses how human activities affect the environment in space and time and how those changes may influence grizzly bears." (p. 213)

1557 Fosburgh, W., 1986. **Wildlife issues in the National Forest System.** In: Audubon Wildlife Report 1986. New York: National Audubon Society. pp. 159-173.
Covers the effect on wildlife and fish of: Old growth timber harvest, below-cost timber sales, grizzly bear management, road building and grazing in riparian zones.

1558 Franklin, E.C. and Allen, J.A., 1985. **Hunting leases on private nonindustrial forest land in North Carolina.** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 49. 12 pp.

1559 Graham, P.J., 1984. **Natural resource valuations: A Montana perspective.** Western Association of Fish and Wildlife Agencies. Proceedings 64:366-372.

1560 Grobey, J.H., 1985. **Politics versus bioeconomics: Salmon fishery and forestry values in conflict.** In: Deacon, R.T. and Johnson, M.B., eds. Forestlands: Public and private. pp. 169-200.

1561 Mahlein, D., 1986. **Will forest plans enhance deer and elk habitat?** Forest Watch 6(9):17-21.

1562 Meehan, W.R., Merrell, T.R., Jr., and Hanley, T.A., Editors, 1984. **Fish and wildlife relationships in old-growth forests: Proceedings of a symposium, Juneau, Alaska, 1982.** n.p., American Insitute of Fishery Research Biologists. 425 pp.
Available from John W. Reintjes, Rt. 4, Box 85, Morehead City, NC 28557. The symposium was sponsored by Alaska District, American Institute of Fishery Research Biologists; NW Section, the Wildlife Society; and Alaska Council on Science and Technology.

1563 Michael, E.D. and Dickson, J.M., 1986. **Coordinating timber and wildlife management practices in immature Appalachian hardwood stands.** In: Smith, H.C. and Eye, M.C., eds. Guidelines for managing immature Appalachian hardwood stands. pp. 176-180.
Reviews the current literature regarding impacts of management of immature Appalachian hardwood stands upon wildife populations.

1564 Morse, W.B., 1984. **Wildlife law enforcement, 1984.** Western Association of Fish and Wildlife Agencies. Proceedings 64:59-80.

1565 Nelson, L.J., 1984. **A cooperative study to estimate the economic values of fisheries in Idaho.** Western Association of Fish and Wildlife Agencies. Proceedings 64:359-365.

1566 Purdy, C.C., 1984. **Wildlife--economics and social trends.** Western Association of Fish and Wildlife Agencies. Proceedings 64:39-41.

1567 Raettig, T., 1984. **Economic analysis of fishery resources in national forest planning.** Western Association of Fish and Wildlife Agencies. Proceedings 64:353-358.
"Both anadromous and resident fish resources are valued in National Forest planning."

1568 Ream, R.R., 1986. **The political environment for management of a wilderness species.** In: Lucas, R.C., comp. Proceedings--National Wilderness Research Conference, Fort Collins, 1985. pp. 176-179.
Deals with the political aspects of wolf management.

1569 Shaw, W.W. and Mangum, W.R., 1984. **Tourism and nonconsumptive uses of wildlife in the western states.** Western Association of Fish and Wildlife Agencies. Proceedings 64:171-180.

"This paper focuses on nonconsumptive use of wildlife in the 13 states in the Pacific and Mountain Regions...and the implications for tourism and wildlife management." (p. 171)

1570 Sorg, C.F. and Nelson, L.J., 1986. **The net economic value of elk hunting in Idaho.** U.S. Forest Service, Resource Bulletin RM-12. 21 pp.

"This bulletin analyzes the value of elk hunting in Idaho, using both estimates of consumer surplus (net willingness to pay of the user) and expenditure as components of total value for consumptive use of the elk resource. Other types of value exist for nonconsumptive use." (p. 1)

WOOD PRODUCTION

1571 American Paper Institute, 1986. **Wood pulp and fiber statistics 1982-1983. 47th edition, book 2: Europe, Asia, Africa, Oceania, Central and South America.** New York, American Paper Institute, Pulp, Materials & Technology Group. 208 pp.

Includes tables on total world wood pulp production by grade and country for 1982 and 1983, and regional distribution of planned wood pulp capacity for 1984 and 1989. Following the world summaries are tables by country showing pulp capacity, production, imports and exports.

1572 American Pulpwood Association Inc., 1986. **Production efficiency methods: "Things that work."** Washington, DC, American Pulpwood Association Inc., [Special Project] 86-A-1. 19 pp. + app.

"This document presents the initial results of an APA project to identify what methods (systems, machines, strategies, policies, etc.) have proven to increase production efficiency in the U.S. wood production process from harvest to final delivery." (p.i)

1573 American Pulpwood Association Inc., 1986. **Pulpwood statistics.** Washington, DC, American Pulpwood Association Inc. [Special Project] 86-A-5. 75 pp.

A compilation of current and historical data relating to U.S. pulpwood receipts, consumption, prices, harvesting. Also includes statistics on U.S. forest ownership and growth and world/foreign statistics.

1574 Blyth, J.E. and Smith, W.B., 1986. **Pulpwood production in the North Central Region by county, 1984.** U.S. Forest Service, Resource Bulletin NC-98. 26 pp.

1575 Bogach, V.S., 1985. **Wood as fuel: Energy for developing countries.** New York, Praeger. 153 pp.

"This book summarizes the current and potential role of wood as an important and indigenous source of energy in developing countries. It is a resource economist's view of the importance of wood as a fuel and of the need for government action to ensure its continued availability." (p. vii)

1576 Cleary, B.D., Kelpsas, B.R., and DeYoe, D.R., 1986. **Five steps to successful regeneration planning.** Rev. ed. Oregon State University, Forest Research Laboratory, Special Publication no. 1 (revision). 32 pp.

"This publication presents a method in which planning information is organized step by step and then used as the basis for choosing among possible alternatives." (p. 1)

1577 Cornelius, J.P. and Morgenstern, E.K., 1986. **An economic analysis of black spruce breeding in New Brunswick.** Canadian

Journal of Forest Research 16:476-483.
"The present study examines both the desirability of allocating resources to black spruce improvement in New Brunswick (program profitability) and the allocation of resources among different components of the improvement process (program efficiency)." (p. 476)

1578 Franklin, C., 1986. **Biological, silvicultural and economic options in forest management.** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 64. 13 pp.
The most severe limitation on biological and silvicultural options is the availability of investment capital. Increasingly, private and corporate decision-makers are deciding to lower rather than raise capital investments to grow timber." (p. 2)

1579 Franklin, E.C., 1986. **Economics of forest management options: Influence on wood properties.** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 68. 10 pp.

1580 Glass, B.P., 1985. **The cost/benefit of using hexazinone for selective grass control in radiata pine in Canterbury.** New Zealand Journal of Forestry 30:115-120.
"This paper explores the economic impact on the growth of radiata pine of three grass control treatments over one rotation: Untreated (control), post-plant spot spraying, and post-plant aerial spraying." (p. 116)

1581 Godman, R.M., 1986. **Lumber value and rate of return for sugar maple.** National Woodlands 9(5):7.

1582 Hay, D.A. and Dahl, P.N., 1984. **Strategic and midterm planning of forest-to-product flows.** Interfaces 14(5):33-43.
Dynamic and linear programming are used to plan harvesting production for two million acres of pine forests.

1583 Holmes, W.D. and Todd, J.D., 1986. **Survey of private forestry costs in Scotland for forest year 1984.** University of Aberdeen, Department of Forestry. 50 pp.
Includes costs of site preparation, planting, weeding, etc.

1584 Horak, F.J., 1982. **An economic analysis series for screening proposed timber management projects. Report no. 3: Precommerical thinning followed by two commercial thinnings.** U.S. Bureau of Land Management, Technical Note no. 357. 61 pp.
Outlines "the methodology for making an economic evaluation of a proposed silvicultural prescription through use of the U.S. Forest Service Investment Analysis Computer Program (IVST)." (p. vii)

1585 Ireland Forest and Wildlife Service, 1983. **The case for forestry.** Revised 1983. Dublin, Stationery Office. 76 pp.
This report reviews the background to current reforestation policy, the progress to date and the structure of the existing forest estate. The financial and social implications of state afforestation are assessed. (p. 2)

1586 McNeel, J.F., 1986. **Thinning your timber for profit.** University of Georgia, Cooperative Extension Service, Circular 781. 10 pp.

1587 Naurois, M. de and Buongiorno, J., 1986. **Economics of red pine plantation management in Wisconsin.** Northern Journal of Applied Forestry 3:118-123.

1588 Pearse, P.H., Lang, A.J., and Todd, K.L., 1986. **Reforestation needs in British Columbia: Clarifying the confusion.** University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 85-13. 27 pp.

1589 Smith, J.H.G., 1986. **Use of wider spacings to reduce costs and increase volumes and values grown.** Canadian Forest Industries 106(7):B43-B46, B48-B52.
"Using wider spacing, and pruning, you should be able to more than double volumes and values from a given investment." (p. B51)

1590 Stone, R.J., Harou, P.A., Mader, D.L., and Hunt, F.M., 1986. **Economics of heavy thinning in eastern white pine plantations.** In: Eastern white pine: Today and tomorrow: Symposium proceedings, 1985. U.S. Forest Service, General Technical Report WO-51:70-74.
A discussion of the financial methodology necessary to determine what intensity of thinning is most appropriate for maximum return.

1591 Tait, D.E., 1986. **A dynamic programming solution of financial rotation ages for coppicing tree species.** Canadian Journal of Forest Research 16:799-801.

1592 Trotter, P.C., 1986. **Biotechnology and the economic productivity of commercial forests.** Tappi Journal 69(7):22-28.
Discusses the potential for economic yield improvement via biotechnology.

1593 Valentine, J., 1985. **State afforestation in New Zealand.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November 14-15, 1985. Queensland Department of Forestry, Brisbane. 21 pp.
The author examines afforestation policy in New Zealand over the past two decades and the role of the State. (HB)

1594 Watt, G.R., 1985. **Growing timber for the market--an economist's point of view.** In: Savill, P.S., ed. Growing timber for the market. pp. 89-102.

The conclusion is that "timber growing in the U.K. must become more oriented to producing the kind of material which pre-determined industries are likely to require. Objectives should be decided at the outset and silvicultural regimes designed accordingly." (p. 89)

1595 Wellner, C.A., 1984. **History and status of silvicultural management in the interior Douglas-fir and grand fir forest types.** In: Baumgartner, D.M. and Mitchell, R., eds. Silvicultural management strategies for pests of the interior Douglas-fir and grand fir forest types. pp. 3-10.

TIMBER HARVESTING

1596 Australian Biological Research Group Pty Ltd., 1985. **The impact of timber production and harvesting on native flora and fauna. A report commissioned by the Timber Industry Inquiry.** In: Ferguson, I.S., 1985. Report of the Board of Inquiry into the Timber Industry. Department of Conservation, Forests and Lands, Melbourne, Victoria. Vol. 2. 156 pp.

This report examines forest types and silvicultural systems in Victoria in relation to the impacts of timber management and harvesting. (HB)

1597 Campbell, I.C. and Doeg, T.J., 1985. **The impact of timber production and harvesting on aquatic values. A report commissioned by the Timber Industry Inquiry.** In: Ferguson, I.S., 1985. Report of the Board of Inquiry into the Timber Industry. Department of Conservation, Forests and Lands, Melbourne, Victoria. Vol. 2. 128 pp.

This report examines the effects which timber harvesting has on aquatic 'values' from a forest. This incorporates such factors as streamflow and plant and animal life. (HB)

1598 Council of Forest Engineering, 1985. **Proceedings of the 8th annual meeting: Forest operations in politically and environmentally sensitive areas.** Co-sponsored by: American Society of Agricultural Engineers, Society of American Foresters, and University of California, Davis. 162 pp.

Available from: Agricultural Engineering Dept., University of California, Davis, CA, 95616.

1599 Dale, J.A., 1985. **Training of forestry personnel for the control and management of harvesting in Queensland.** In: Shepherd, K.R. and Richter, H.V., eds. Managing the tropical forest. pp. 187-196.

"This paper discusses the training of overseers and rangers supervising harvesting and marketing operations in Queensland." (p. 187)

1600 Davey, A.G., Helman, P.M., and Weirick, J.M., 1985. **The impacts of timber production and harvesting on landscape, recreation, and wilderness values. A report commissioned by the Timber Industry Inquiry.** In: Ferguson, I.S., 1985. Report of the Board of Inquiry into the Timber Industry. Department of Conservation, Forests and Lands, Melbourne, Victoria. vol. 2. 76 pp. + app.

This report discusses the issues surrounding recreation-related values and management considerations. The visual management planning system in Victoria is discussed. (HB)

1601 Hammond, H.L., 1985. **A practical, integrated planning system for harvesting timber on sensitive areas.** In: Council on Forest Engineering. Proceedings of the 8th annual meeting. pp. 58-63.

1602 Heaps, T., 1984. **The forestry maximum principle.** Journal of Economic Dynamics and Control 7:131-151.
"This paper considers the problem of when to optimally log a forest... It has shown that the age distribution of the forest matters and that there are economic benefits obtainable by altering this age structure in accordance with the harvesting rule given by the forestry maximum principle." (p. 147)

1603 Hokans, R.H., 1984. **An artificial intelligence application to timber harvest schedule implementation.** Interfaces 14(5):77-84.
Teaching the computer how to allocate acreage for harvest.

1604 Hultkrantz, L., 1986. **Optimal timber-harvesting programmes in a model with adjustment costs.** Canadian Journal of Forest Research 16:836-840.
"This paper reports on a linear age-class model that is used to calculate optimal long-run harvesting programmes." (p. 836)

1605 Huyler, N.K., 1986. **The costs and returns of the Vermont cable yarder.** Northern Logger and Timber Processor 35(2):12-14, 17-18.

1606 Johnson, R.R., 1984. **The implications of pest impacts on harvest scheduling.** In: Baumgartner, D.M. and Mitchell, R., eds. Silvicultural management strategies for pests of the interior Douglas-fir and grand fir forest types. pp. 129-133.

1607 Kellogg, L. and Hargrave, M., 1985. **Harvesting cost and stand damage comparisons of cable thinning techniques: Herringbone strip thinning versus conventional thinning.** In: Council on Forest Engineering. Proceedings of the 8th annual meeting. pp. 84-90.

1608 Kerruish, C.M., 1985. **The logging sector of the Australian forest industry.** In: Shepherd, K.R. and Richter, H.V., eds. Managing the tropical forest. pp. 125-139.
"This paper describes the logging sector of the Australian forest industry in terms of its structure and economic importance, its technology, work force and service facilities for research, education and training," (p. 125)

1609 LeDoux, C.B., 1986. **Bucking logs to cable yarder capacity can decrease yarding costs and minimize wood wastage.** Southern Journal of Applied Forestry 10:180-183.

1610 LeDoux, C.B., Fight, R.D., and Ortman, T.L., 1986. **Stump-to-truck cable logging cost equations for young-growth Douglas-fir.** Western Journal of Applied Forestry 1:19-21.

The authors present "new equations that can be used for estimating the cost of logging Douglas-fir from stump-to-truck in the Pacific Northwest." (p. 19)

1611 Martin, A.J., editor, 1985. **Timber harvesting: The link between management and utilization. Proceedings of the Third Society of American Foresters Region V Technical Conference, Madison, Wis., Sept. 25-27, 1985.** Society of American Foresters; University of Wisconsin-Madison, Cooperative Extension Service. SAF Publication 85-09. 211 pp.

1612 Miller, G.W. and Sarles, R.L., 1986. **Costs, yields, and revenues associated with thinning and clearcutting 60-year-old cherry-maple stands.** U.S. Forest Service, Research Paper NE-582. 8 pp.

"Logging costs, product yields, and harvest revenues were determined for three thinning treatments...and clearcutting." (abstract)

1613 Morrison, P., Gasson, R., Armstrong, G., and Williams, D., 1985. **The recovery cost of the merchantable timber in coastal British Columbia.** University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 85-8. 48 pp. + 1 p. addendum.

1614 Nelson, R.H. and Pugliaresi, L., 1985. **Timber harvest policy issues on the O & C Lands.** In: Deacon, R.T. and Johnson, M.B., eds. Forestlands: Public and private. pp. 149-168.

The Oregon and California Grant Lands and the Coos Bay Wagon Road Lands in western Oregon are commonly referred to as the O & C Lands.

1615 Phillis, K.J., 1985. **Operational protection of forest values.** In: Shepherd, K.R. and Richter, H.V., eds. Managing the tropical forest. pp. 153-164.

Discusses the protection of forest values during the logging operation.

1616 Pottie, M.A. and Guimier, D.Y., 1986. **Harvesting and transport of logging residuals and residues.** Forest Engineering Research Institute of Canada, Special Report no. SR-33. 100 pp.

Includes cost information.

1617 Reed, W.J. and Errico, D., 1985. **Optimal harvest scheduling at the forest-level in the presence of risk of fire.** University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 85-3. 47 pp.

"The study analyzes the evolution of a forest under the impact of harvesting and random fire and demonstrates that present methods of determining the rate of harvest may considerably overestimate the production capacity of the forest." (preface)

1618 Schrotz, M.K., 1985. **Harvesting practices and the visual resource.** In: Martin, A.J., ed. Timber harvesting: The link between management and utilization. pp. 104-113.

1619 Sessions, J., Pyles, M.R., and Mann, J.W., 1985. **Selection of design factors in cable logging: An economic approach.** In: Council on Forest Engineering. Proceedings of the 8th annual meeting. pp. 75-78.

"This paper presents an economic approach to selection of design factors for cable logging systems using a simulation procedure. A design factor which maximizes net revenue is determined by simultaneously considering revenue, production, operating costs and safety." (p. 75)

1620 Spencer, J.S., Jr., Hansen, M.H., and Jakes, P.J., 1986. **A method for estimating operability and location of the timber resource.** U.S. Forest Service, Research Paper NC-273. 52 pp.

The authors define operability as the relative ease or difficulty of managing or harvesting timber because of physical conditions in the stand or on the site. Using data collected during Minnesota statewide forest inventories, a method was developed for classifying timber by operability class based on seven operability components." (abstract)

1621 Stenzel, G., Walbridge, T.A., Jr., and Pearce, J.K., 1985. **Logging and pulpwood production.** 2d ed. New York, Wiley. 358 pp.

Includes chapters on logging planning, forest road construction, timber production management, and logging cost analysis.

1622 Stokes, B.J. and Lanford, B.L., 1986. **Production and costs of manual delimbing, bucking, and piling in thinnings.** U. S. Forest Service, Research Paper SO-223.

"Studies were made of subsequent functions of bunched trees in southern pine plantation thinnings. Prediction equations, production rates, and cost estimates were developed." (abstract)

1623 Uhler, R.S. and Morrison, P.D., 1986. **Utilization standards and economic efficiency in British Columbia forests.** University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 86-1. 20 pp. + figures.

"This paper examines log utilization standards as prescribed by the B.C. Ministry of Forests, in light of their effect on logging profitability." (preface)

TIMBER SUPPLY

1624 Alcock, J.E., 1986. **Data for forestry decisions: The Southern Timber Supply Report.** Forest Farmer 45(9):18-20.

1625 Forestry Technical Services Pty Ltd., 1985. **A report on the efficiency of resource use for supplying wood. A report commissioned by the Timber Industry Inquiry.** In: Ferguson, I.S., 1985. Report of the Board of Inquiry into the Timber Industry. Department of Conservation, Forests and Lands, Melbourne, Victoria. Vol. 2. 53 pp.

This report examines trends in wood availability from public and private lands, relative efficiency of investments on State lands, investment returns for forestry investments on private lands and incentives for private reforestation. (HB)

1626 McNamara, P.J., 1984. **Future timber supplies for Western Australia.** Western Australia Forests Dept. 36 pp.

Subtitle: "A discussion paper prepared for the Hon. Premier and Minister for Forests by the Forests Department of Western Australia.

1627 Schallau, C.H. and Maki, W.R., 1986. **Input/output models and forest resource supply constraints revisited.** Forest Science 32:401-404.

"The authors respond to Vincent's (1986) contention that the results of Leontief (demand) and Ghoshian (supply) interindustry models cannot be gainfully compared." (p. 401)

1628 Soderberg, U., 1986. **[Functions for forecasting of timber yields--Increment and form height for individual trees of native species in Sweden.]** Sveriges Lantbruksuniversitet, Avdelningen for Skogsuppskattning och Skogsindelning, Rapport nr. 14. 251 pp.

In Swedish with English summary. "The aim of this study is to construct functions for long term forecasting of timber yields."

1629 Tedder, P.L. and LaMont, R.N., 1986. **Projecting timber availability.** Journal of Forestry 84(9):26-27.

"Timber availability, the volume forthcoming at harvest, is not the same as a timber-supply estimate." (p. 26)

1630 Vincent, J.R., 1986. **Input/output models and forest resource constraints: A comment.** Forest Science 32:397-401.

Comments on an article by Schallau and Maki (1983) in which the authors argued for greater use of the supply model in investigating the effects of forest resource constraints.

TIMBER SALES

1631 Bowman, J.K. and Baldwin, S.E., 1985. **Principles of timber sale design as they affect cost of production in the Lake States.** In: Martin, A.J., ed. Timber harvesting: The link between management and utilization. pp. 31-46.
"Size of ownership, size of stands, cutting prescription, cutting area, logging equipment, skidding distance and road costs affect the cost of production." (abstract)

1632 Dowdle, B., 1986. **Reforming Forest Service timber sales.** Forest Watch 6(11):15-17.
The author suggests making some changes in timber sale policies.

1633 Gunter, J.E., 1986. **The timber sale contract.** Forest Farmer 45(10):8-9.

1634 Muraoka, D.D. and Watson, R.B., 1985. **Economic issues in federal timber sale procedures.** In: Deacon, R.T. and Johnson, M.B., eds. Forestlands: Public & private. pp. 201-223.

1635 O'Toole, R., 1986. **The propsed timber sale accounting system: What it does and doesn't do.** Forest Watch 7(2):19-22.
The Forest Service's draft report, "Timber Sale Program Information Reporting System," reported to Congress in July, 1986, is supposed to allow Congress to compare the benefits and costs of national forest timber sales.

1636 Peace, M., 1985. **Administrative factors involving sale design that affect economic viability of a timber sale.** In: Martin, A.J., ed. Timber harvesting: The link between management and utilization. pp. 47-53.
"Land management objectives, pricing methods, and contractual requirements can have a significant affect on production costs and economic viability of a timber sale." (abstract)

1637 Ruderman, F.K. and Haynes, R.W., 1986. **Volume and average stumpage price of selected species on the national forests of the Pacific Northwest Region, 1973 to 1984.** U.S. Forest Service, Research Note PNW-446. 37 pp.

1638 Schniepp, M., 1985. **The economic consequences of the setaside program in the Douglas fir region of the Pacific Northwest.** In: Deacon, R.T. and Johnson, M.B., eds. Forestlands: Public and private. pp. 225-245.
"The setaside program provides for the preferential offering of timber sales to timber manufacturing firms that qualify under an appropriate 'small business' criterion as designated by the Small Business Administration." (p. 225)

1639 Sherar, J.R. and Sloan, W.H., 1985. **Meeting the eastern**

challenges: Planning and producing. In: Council on Forest Engineering. Proceedings of the 8th annual meeting. pp. 64-67.
"Addresses the political, environmental, and economic climates surrounding the planning and preparation of timber sales on National Forest lands in the Eastern United States." (p. 64)

1640 U.S. Forest Service, 1986. **Forest Service timber sale program information reporting system: Draft report to Congress.** Revised. U.S. Forest Service, Policy Analysis Staff. 130 pp.

1641 U.S. General Accounting Office, 1986. **Timber sale accounting: Analysis of Kootenai National Forest.** U.S. General Accounting Office. 29 pp.

SOCIAL SCIENCES APPLIED TO FOREST INDUSTRIES

WOOD-USING INDUSTRIES

1642 ACIL Australia Pty Ltd., 1985. **The development of Victoria's timber and forest products industries. A report commissioned by the Timber Industry Inquiry.** In: Ferguson, I.S., 1985. Report of the Board of Inquiry into the Timber Industry. Department of Conservation, Forests and Lands, Melbourne, Victoria. Vol. 2. 71 pp. + app.

This paper examines the changing structure of the forest products industry in Victoria, future outlook , factors affecting efficiency in the sawmilling sector, resource and labour issues, and government policy initiatives.(HB)

1643 Atkinson, M., 1986. **Ontario lumber manufacturing.** In: Lakehead University Forestry Association Forestry Symposium, 19th, Thunder Bay, 1986. Proceedings. pp. 67-69.

1644 Carino, H.F., 1986. **Sawmill conversion efficiency improvement analysis: A new perspective.** Forest Products Journal 36(7/8):9-16.

1645 Chapman, J. and Hall, C.A.S., 1986. **Forest resources and energy use in the forest products industry.** In: Hall, C.A.S. et al. Energy and resource quality: The ecology of the economic process. New York, Wiley. pp. 461-479.

1646 Cleaves, D.A. and O'Laughlin, J., 1986. **Analyzing structure in wood-based industry: Part II. Categorizing strategic diversity.** Forest Products Journal 36(5):11-17.

"A study of firms in the southern plywood industry identified their strategies in 14 competitive areas." (p. 11)

1647 Constantino, L. and Haley, D., 1986. **Concepts and measurement of productivity in the forest industries.** University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 85-9. 42 pp.

"Literature on the measurement of productivity and technical progress in the Canadian and United States forest industries is reviewed and the results of 19 studies are summarized." (preface)

1648 Ellefson, P.V., 1986. **Wood-based industry: Structure in the USA.** In: Encyclopedia of Materials Science and Engineering. New York, Pergamon Press. pp. 5390-5299.

1649 FAO, 1985. **Field manual on cost estimation in sawmilling industries.** Rome, Food and Agriculture Organization of the United Nations, FAO Forestry Paper no. 52/2. 49 pp.

"In constrast to the first paper (52/1), which is mostly dealing with theoretical models on managerial costing...this paper is meant as a manual for managers of small and medium-sized sawmills in estimating the production cost of the

sawnwood produced in their mills." (p.iii)

1650 Ferguson, I.S., 1985. **Report of the Board of Inquiry into the timber industry.** Department of Conservation, Forests and Lands, Melbourne, Victoria. 2 vols.

Volume I contains the findings and conclusions of the Board of Inquiry. The topics covered by the report include forestry and the regional economy, industry structure, self-sufficiency in forest products cost-competiveness, forest ownership, wood supply, and wood allocation. Volume II contains a number of papers commissioned by the Board of Inquiry. (HB)

1651 Foster, B.B., 1986. **Value added in the wood-based industries of the 13 southern states, 1982.** U.S. Forest Service, Southern Region, Technology Update. [2] pp.

Undated; received in 1986. The wood-based industry is defined as including lumber and wood products, paper and allied products, and wooden household/office furniture.

1652 Frea, W.J., 1984. **Forest residue fuel pre-drying, economic analysis.** In: Biomass Fuel Drying Conference, Superior, Wis., Aug. 8, 1984. Proceedings. pp. 55-88. University of Minnesota Office of Special Programs.

"Pre-drying of forest residue fuel was compared economically with direct burning of green wood fuel in a modern boiler using heat recovery equipment." (p. 55)

1653 Govett, R. and Lange, D., 1985. **Directory of Idaho primary wood processors.** Idaho Forest, Wildlife and Range Experiment Station, Miscellaneous Publication no. 12. 99 pp.

1654 Harrison, T.P. and deKluyver, C.A., 1984. **MS/OR and the forest products industry: New directions.** Interfaces 14(5):1-7.

The editors introduce the special issue and give a history of the use of management science/operations research in forestry.

1655 Howard, A.F., 1985. **Modeling production, costs, and profitability in the forest products industry: A case study of southern New England.** Ph.D. thesis, Yale University; Ann Arbor, MI, University Microfilms International. 257 pp.

"Three important components of the forest products industry, logging, trucking, and sawmilling were the subject of an integrated step-wise study." (abstract)

1656 Jegr, K.M., 1985. **Overview of the North American pulp and paper industry.** University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 85-6 (i.e. 85-11). 71 pp.

Highlights the major differences and interdependencies between the Canadian and U.S. pulp and paper industries.

1657 Jones, K.D. and Zinn, G.W., 1986. **Forests and the West Virginia economy--Volume 4: The size and economic performance of West Virginia's wood products industry.** West Virginia Agricultural and Forestry Experiment Station, Bulletin 691, vol. 4. 54 pp.

1658 Kennedy, I. and Hourigan, M., 1985. **Economics of scale in sawmilling: A discussion paper.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November 14-15, 1985. Queensland Department of Forestry, Brisbane. 31 pp.

The authors discuss the concept of economies of scale and attempt to identify the existence of parameters from which the existence of economies of scale might be inferred. This is applied to the Victorian sawmilling industry. (HB)

1659 Kihiyo, V.B. and Kowero, G.S., 1986. **Some economic aspects of the wattle industry in Tanzania.** Journal of World Forest Resource Management 2:57-62.

1660 Knight, D.K., 1985. **Logging business characteristics--what are they?** In: Martin, A.J., ed. Timber harvesting: The link between management and utilization. pp. 9-11.

1661 Larsen, D.N. and Bearden, D.A., 1986. **1984 Washington mill survey: Wood consumption and mill characteristics.** Washington State Dept. of Natural Resources. Series Report no. 9. 28 pp. + appendices.

"This report presents comprehensive statistics on wood consumption and the characteristics of primary wood processing mills operating in Washington during calendar year 1984." (p. iii)

1662 Lee, K.J., 1986. **Price modeling and effects of input costs, economy of scale, and technology change for the wood-based industry--a case of U.S. wood-based industries.** Quarterly Journal of Chinese Forestry 19(1):91-101.

In Chinese with English summary.

1663 Maharaullee, M.M., 1985. **Production planning for a medium-sized furniture factory in a developing country.** United Nations Industrial Development Organization, ID/WG. 426/8. 33 pp.

Paper presented at the UNIDO Seminar on Furniture and Joinery Industries, Reduit, Mauritius, Aug., 1984.

1664 Maki, W.R., Schallau, C.H., Foster, B.B., and Redmond, C.H., 1986. **Alabama's forest products industry: Performance and contribution to the state's economy, 1970-1980.** U.S. Forest Service, Research Paper PNW-361. 22 pp.

1665 Maki, W.R., Schallau, C.H., Foster, B.B., and Redmond, C.H., 1986. **Oklahoma's forest products industry: Performance and**

contribution to the state's economy, 1970 to 1980. U.S. Forest Service, Research Paper PNW-363. 22 pp.

1666 Maloney, T.M., 1986. **Developing China's particle board industry.** Unasylva 38(1)(151):28-33.
Particle board research and plant constuction are moving ahead rapidly in China today.

1667 Mohamed, S. bin, 1986. **The Malaysian rattan industry: Strategies for development.** University Pertanian Malaysia, Faculty of Forestry, Occasional Paper no. 6. 15 pp.

1668 Moslemi, A.A., 1986. **Strong medicine for the forest industry: Has it healed the patient?** Forest Products Journal 36(5):9-10.
Discusses the effect that the Federal Reserve Board's actions in 1979, which led to a control of the money, have had on the forest products industry.

1669 Ovaskainen, V., 1986. **[Factor shares in the Finnish forest industries, 1955-1983.]** Folia Forestalia no. 650. 31 pp.
In Finnish with English summary. "Functional distribution (factor shares) in Finland's forest sector is empirically investigated. The paper reports the relative shares of industrial wages, gross value of production in wood and paper industry...and the forest industries (total).

1670 Phillips, F.H. and Logan, A.F., 1986. **Production patterns for pulp and paper in the Asian Region.** Appita 39:181-183.
A discussion of pulp and paper industry activities in Korea, Taiwan, India, Indonesia, Malaysia, Philippines, and Thailand.

1671 Poyry, J., 1986. **Prospects and problems in the growth of the pulp and paper industry.** Tappi Journal 69(8):30-36.

1672 Reed, A.S., 1985. **Key factors in the success of every logging business.** In: Martin, A.J., ed. Timber harvesting: The link between management and utilization. pp. 12-20.

1673 Singh, B.K. and Nautiyal, J.C., 1986. **A comparison of observed and long-run productivity of and demand for imputs in the Canadian lumber industry.** Canadian Journal of Forest Research 16:443-455.
"An interrelated factor demand approach was used to study the long-term productivity of and demand for inputs in the Canadian lumber industry covering the period of 1955 to 1982." (p. 443)

1674 United Nations Industrial Development Organization, and FAO, 1983. **First Consultation on the Wood and Wood Products Industry, Helsinki, 19-23 September, 1983: Report.** ID/WG.395/10. 38 pp.

Concerns the development of the wood industries in developing countries.

1675 United Nations Industrial Development Organization, Secretariat, 1983. **The development of primary and secondary wood-processing industries.** UNIDO/FAO. First Consultation on the Wood and Wood Products Industry, 1983. Issue Paper no. 1. ID/WG.395/7. 13 pp.

The development of the wood processing industries in developing countries.

1676 Vindsnurer, D., 1985. **Production planning for furniture plants.** Paper presented at UNIDO Workshop on Production Management of Public Sector--Mechnical Wood Processing Industries, Ljubljana, Yugoslavia, April, 1985. United Nations Industrial Development Organization, ID/WG.438/4. 16 pp. + folded diagram.

1677 Waugh, G., 1985. **The introduction and management of technological change in hardwood sawmilling industry.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November 14-15, 1985. Queensland Department of Forestry, Brisbane. 10 pp.

The author discusses the problems of introducing technological change into the hardwood sawmilling industry from both the hardware side and the operator side. The need for training of operators as part of technological improvement is stressed. (HB)

1678 Western Wood Products Association, 1986. **1985 statistical yearbook of the western lumber industry.** Portland, Western Wood Products Association, Economic Services Dept. 33 pp.

Includes tables of western lumber production and a profile of western sawmills.

1679 Widman, C., 1986. **The structure of the China log and lumber business.** In: Marketing Logs, Timber, Lumber and Chips to the Pacific Rim, 2nd annual Seattle Conference, 1985. pp. 62-63.

Abstract only.

OTHER FOREST INDUSTRIES

1680 Dickson, A., coordinator, 1986. **Balsam fir update: A review of the latest research findings pertinent to Christmas tree culture.** 76 pp.

Proceedings of a seminar sponsored by University of New Brunswick Faculty of Forestry. No publishing information given.

1681 Kronrad, G.D. and Albers, C.A., 1985. **Consultants can help landowners manage for "non-traditional" forest products.** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 52. [2] pp.

Reprinted from National Woodlands 8(6):8-9.

Non-traditional products include wildlife, aesthetics and recreation, maple syrup, Christmas trees, and firewood.

1682 Kronrad, G.D., 1986. **Managing your forest for maple syrup production.** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 63. [2] pp.

Reprinted from National Woodlands 9(2):5-6.

1683 Passewitz, G.R., editor, 1983. **The new Christmas tree grower's handbook.** Revised edition. Ohio Cooperative Extension Service. Unpaged.

Brings together current Christmas tree production and marketing information. Includes sections on Christmas tree farm record keeping, plantation establishment, marketing, and income and property tax.

MARKETS-MARKETING-TRADE

1684 Aldhous, J.R., 1986. **The effect of speciation on selling prices of conifer sawlogs in South West England.** Forestry 59:85-96.

1685 Anderson, F.J., 1986. **Trade barriers and Canadian forest products: Opening comments and review.** In: Lakehead University Forestry Association Forestry Symposium, 19th, Thunder Bay, 1986. Proceedings. pp. 11-16.

1686 Andreason, K.R., 1985. **End uses and markets for structural composites in industrial applications.** In: Structural Wood Composites: Meeting Today's Needs and Tomorrow's Challenges. Forest Products Research Society Proceedings 7339. pp. 119-122.

1687 Apgar, W.C., Jr., 1985. **Long term housing demands.** In: Structural Wood Composites: Meeting Today's Needs and Tomorrow's Challenges. Madison, Forest Products Research Society Proceedings 7339. pp. 131-134.

1688 Araman, P.A., 1986. **Hardwood exports: A thriving Pacific Rim market.** Wood and Wood Products 91(7):86, 88, 90.
"Twenty-three percent of the U.S. hardwood log, lumber, and veneer exports in 1984 was shipped to the Pacific Rim market, primarily to Japan and Taiwan." (p. 90)

1689 Ballengee, J.H., 1986. **Impact of changing markets on southern timberland owners.** Forest Farmer 45(9):6-7.

1690 Batten, D. and Johansson, 1985. **The impact of substitution and technological change on the demand for forest products.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November 14-15, 1985. Queensland Department of Forestry, Brisbane. 40 pp.
The authors outline an approach for the analysis of product substitution and technological change, and apply it to various markets in which forest products compete with other types of commodities. (HB)

1691 Baval S., A. van, 1986. **Chile as an exporter of radiata pine and other species of logs and timber.** In: Marketing Logs, Timber, Lumber and Chips to the Pacific Rim, 2nd annual Seattle Conference, 1985. pp. 20-39.
The tables and graphs included in Mr. Van Baval's presentation are reproduced.

1692 Bertrand, A., 1986. **Marketing networks for forest fuels to supply urban centers in the Sahel.** Rural Africana 23/24:33-47.

1693 Bigsby, H., 1985. **Estimating paper demand elasticities.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November 14-15, 1985.

Queensland Department of Forestry, Brisbane. 19 pp.
The author discusses newsprint demand in Australia and presents estimates of demand elasticities. (HB)

1694 BIS-Shrapnel Pty Ltd., 1986. **A study of the timber market in Australia.** Portland, OR, Western Wood Products Association. 46 pp.
A market research report for WWPA by BIS-Shrapnel Pty Ltd., Melbourne, Australia. The study was produced under the Market Development Program of the Foreign Agricultural Service, Washington, D.C.

1695 Bourke, I.J., 1986. **Barriers to trade in forest products.** Resources 84:9-11.
Protectionism is on the rise throughout the world. "...dismantling many of the barriers facing forest products would generate substantial increases in trade." (p. 11)

1696 Bradley, R.T., 1985. **Conifer roundwood demand and supply in Great Britain.** In: Savill, P.S., ed. Growing timber for the market. pp. 1-11.

1697 Constantino, L.F., 1985. **Sawlog prices and quality differences in Canadian and United States Pacific Coastal log markets.** University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 85-6. 28 pp.
Presents a comparative analysis of sawlog quality and prices in the Canadian and U.S. Pacific coastal log markets.

1698 Davenport, E.L., 1986. **Pulpwood prices in the Southeast, 1984.** U.S. Forest Service, Research Note SE-343. 3 pp.

1699 Davis, J.W. and Cubbage, F.W., 1986. **Analyzing historical and regional stumpage price trends in Georgia.** Georgia Forest Research Paper no. 64. 15 pp.

1700 Economic Commission for Europe, and FAO, 1986. **Monthly prices for forest products.** Timber Bulletin v. 39 no. 2. 41 pp.

1701 Economic Commission For Europe, and FAO, 1986. **Monthly prices for forest products.** Timber Bulletin vol. 39 no. 4. 41 pp.

1702 Ellefson, P.V., 1986. **Timber: Price and consumption in the USA.** In: Encyclopedia of Materials Science and Engineering. New York, Pergamon Press. pp. 5001-5008.

1703 Engalichev, N., 1986. **More value added for everyone in marketing eastern white pine.** In: Eastern white pine: Today and tomorrow: Symposium proceedings. U.S. Forest Service, General Technical Report WO-51:106-108.
The author believes that there is "an opportunity to add value to logs and subsequently to lumber by manufacturing logs to grade." (p. 106)

1704 FAO, 1986. Monthly **bulletin tropical forest products in world timber trade, Jan.-Feb., 1986.** [Rome] Food and Agriculture Organization of the United Nations. FO:Misc/86/9. 53 pp.

1705 Fenton, R.T., 1984. **Sawn timber in Japan and New Zealand prospects: Progress report.** New Zealand Forest Service, Forest Research Institute, FRI Bulletin no. 96. 67 pp. + tables and figures.

This report is in four main sections: (1) Japan-sawn-timber market; (2) The suppliers--Japan itself, North America, USSR, South Sea logs, Chile, the Japanese sawmilling industry; (3) New Zealand past and present trade; and (4) future New Zealand trade.

1706 Fergus, D.A. and Beshore, C.S., 1985. **End uses and markets for structural composites in non-residential applications** In: Structural Wood Composites: Meetings Today's Needs and Tomorrow's Challenges. Forest Products Research Society Proceedings 7339. pp. 113-118.

1707 Flora, D., 1986. **Markets for those low end logs.** In: Marketing Logs, Timber, Lumber and Chips to the Pacific Rim, 2nd annual Seattle Conference, 1985. pp. 47-54.

1708 Flora, D.F. and Vlosky, R.P., 1986. **Potential Pacific Rim demand for construction-grade softwood logs.** U.S. Forest Service, Research Paper PNW-364. 29 pp.

1709 Foley, G., 1986. **The economics of fuelwood substitutes.** Unasylva 38(1)(151):12-20.

Subtitle: "An assessment of the impact on domestic fuelwood demand of replacing fuelwood with conventional fuels."

1710 Fuller, B., 1985. **Structural composites in residential construction: The outlook through 2000.** In: Structural Wood Composites: Meeting Today's Needs and Tomorrow's Challenges. Forest Products Research Society Proceedings 7339. pp. 103-112.

The author predicts that "Waferboard and oriented strandboard...use in residential construction...will accelerate rapidly over the next decade and a half." (p. 103)

1711 Granskog, J.E., 1986. **The South's timber export potential.** Forest Farmer 45(9):14-15.

1712 Greber, B.J. and Smith, H.D., 1986. **An analysis of multiple product merchandising strategies for loblolly pine stumpage.** Southern Journal of Applied Forestry 10:137-141.

"Procedures are outlined for analyzing the value of loblolly pine stands, given various merchandising strategies, product specifications and market conditions." (p. 137)

1713 Guss, L.M., 1985. **The do-it-yourself market for structural composites.** In: Structural Wood Composites: Meeting Today's Needs and Tomorrow's Challenges. Madison, Forest Products Research Society Proceedings 7339. pp. 123-130.

1714 Gyeong, K.E. and Kyu, P.M., 1985. **Improvement of timber tariff policy for the stability of long-term timber supply and demand.** Research Bulletin of the Seoul National University Forests 21:57-69.

In Korean with English summary. "This study was carried out to analyze the structural problems of present timber tariff policy, and to propose the improvement measures of timber tariff for the stable long-term supply, reasonable timber import and protection of domestic forestry." (p. 57)

1715 Hartman, K.J., 1986. **The market for coated paper.** Tappi Journal 69(9):58-63.

1716 Herring, R.T., 1986. **Free trade and forest products.** In: Lakehead University Forestry Association Forestry Symposium, 19th, Thunder Bay, 1986. Proceedings. pp. 61-65.

1717 International Research and Marketing, 1986. **The markets for lumber and plywood in Japan: A market research report.** Tacoma, American Plywood Association; Portland, Western Wood Products Association. 150 pp.

This study was conducted under the auspices of the Foreign Agricultural Service for the APA and the WWPA by IRM, Inc. of Tokyo.

1718 Japan Lumber Importers' Association, 1986. **Timber trade report no. 16, July, 1986.** Japan Lumber Importers' Assoc. 10 pp.

1719 Kennedy, I. and Hourigan, M., 1985. **Markets for sawn timber in Victoria: 1980-81.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November 14-15, 1985. Queensland Department of Forestry, Brisbane. 17 pp.

This report summarises the results of a number of studies of end-use markets for sawn timber in Victoria. (HB)

1720 Kronrad, G.D., Smith, M.D., Gardner, W.E., and Phillips, D.R., 1985. **Prices and demand for graded oak in the Carolinas and Virginia: Forest management implications.** North Carolina State University, Small Woodlot Forestry R & D Program, Research Notes Series no. 50. [7] pp.

"In this study, the grade and price structure for red and white oak in the Piedmont and Mountain regions of North Carolina, South Carolina, and Virginia was examined. The objective was to determine whether prices and local market demands could justify forest management of red and white oak in these regions."

1721 Kuuluvainen, J., 1986. **An econometric analysis of the sawlog market in Finland.** Journal of World Forest Resource Management 2:1-19.
This study "is concerned with the factors affecting the short-term demand for and supply of sawlogs from private non-industrial forests." (p. 1)

1722 Lakehead University Forestry Association Forestry Seminar, 19th, Thunder Bay, 1986. **Proceedings: Tariffs and the Canadian forest industry.** Sponsored by Boise Cascade Canada Ltd. and Great Lakes Forest Products Ltd. 83 pp.

1723 Lange, W., 1986. **Lumber imports and fair trade.** In: Lakehead University Forestry Association Forestry Symposium, 19th, Thunder Bay, 1986. Proceedings. pp. 45-59.

1724 Lockyer, A., 1986. **The UK timber trade and Canadian timber.** Timber Trades Journal 336(5698):12-13.

1725 Mackenzie, J. and Weaver, T.F., 1986. **A household production analysis of fuelwood demand in Rhode Island.** Northeastern Journal of Agricultural and Resource Economics 15:53-60.
"A model analyzing household substitution of fuelwood for other heating fuels is needed to clarify the relationship between energy prices and patterns of forest resource utilization." (p. 53)

1726 Maplesden, F., 1985. **Eastern Soviet forest resources and trade.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November 14-15, 1985. Queensland Department of Forestry, Brisbane. 31 pp.
The author examines forest resources in the eastern Soviet Union and current trade with Pacific countries. (HB)

1727 Marchand, M.H., 1983. **Balancing supply and demand worldwide by the year 2000 through resource management.** UNIDO/FAO. First Consultation on the Wood and Wood Products Industries, Helsinki, 1983. ID/WG.395/6. 65 pp.
"This document...sets out the outlook for forest resources around the year 2000, the chances of worldwide demand meeting supply, and the action to take at both national and international level in order to increase the contribution made by developing countries towards the attainment of such an equilibrium...." (p. 3)

1728 Margolick, M. and Uhler, R., 1986. **The economic impact of removing log export restrictions in British Columbia.** University of British Columbia, Forest Economics and Policy Analysis Project, Information Report 86-2. 26 pp.
"This report studies the effects on the provincial economy of the complete removal of restrictions on the quantity of sawlogs exported from coastal British Columbia.

The study also investigates the effects of substituting a higher log export levy...to control the level of exports." (preface)

1729 Marketing Logs, Timber, Lumber and Chips to the Pacific Rim, 2nd Annual Seattle Conference, 1985, 1986. **Abstracted proceedings.** Seattle, Jay Gruenfeld Associates, Inc. 67 pp.

1730 McCloy, B., 1986. **Canadian-U.S. lumber trade.** In: Lakehead University Forestry Association Forestry Symposium, 19th, Thunder Bay, 1986. Proceedings. pp. 25-40.

1731 Merrithew, G.S., 1986. **Tariffs and free trade: A political perspective.** In: Lakehead University Forestry Association Forestry Symposium, 19th, Thunder Bay, 1986. Proceedings. pp. 17-21.

1732 Morris, P. and Maxwell, J., 1985. **Export potential of pulp and paper to South Korea.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November 14-15, 1985. Queensland Department of Forestry, Brisbane. 41 pp.

The authors study future demand for paper products in South Korea by use of an econometric model. This is used to determine the potential for exports of pulp and pulpwood from Australia to South Korea (HB)

1733 Neilson, D.A., 1986. **New Zealand as a Pacific Rim market competitor in log, lumber and chip exports.** In: Marketing Logs, Timber, Lumber and Chips to the Pacific Rim, 2nd annual Seattle Conference, 1985. Abstracted proceedings. pp. 9-19.

1734 North Carolina Division of Forest Resources, 1985. **Buyers of forest products in North Carolina.** North Carolina Dept. of Natural Resources and Community Development, Divison of Forest Resources. 154 pp.

A directory of users and buyers of primary forest products.

1735 Ohio Agricultural Statistics Service, 1986. **Ohio timber prices [March-May, 1986].** Columbus, Ohio Agricultural Statistics Service. [2] pp.

1736 Oklahoma State Dept. of Agriculture, Marketing Industry Division, 1986. **Oklahoma forest industries buyer's guide 1985-86.** Oklahoma Dept. of Agriculture, Marketing Industry Division and Forestry Division. 19 pp.

A directory of primary and secondary industries.

1737 Parks, R.W. and Cox, J., 1985. **The economic implications of log export restrictions: Analysis of existing and proposed legislation.** In: Deacon, R.T. and Johnson, M.B., eds. Forestlands: Public and private. pp. 247-273.

1738 Paul, P.B., Sar, J.A., Maxwell, J.A., and Willey, L.A., 1985. **Forecasting the consumption of sawntimber in Australia.** In: Proceedings of the Forestry and Forest Products Industries Economists Conference, Brisbane, November 14-15, 1985. Queensland Department of Forestry, Brisbane. 31 pp.

The authors examine the issues surrounding the development of forecasts of future consumption of sawntimber with specific attention given to the conceptual problems associated with the estimation of consumption. Forecasts are given using various models. (HB)

1739 Peterson, T.A., 1986. **Wisconsin forest products price review, lumber edition, June, 1986.** University of Wisconsin, Cooperative Extension Service. 5 pp.

1740 Pleydell, G., editor, 1986. **Tropical timbers; market information for producer nations.** Woldingham, Surrey, U.K.

A monthly journal which began publication with vol. 1 no. 1, Aug., 1986. Address: The Editor, Tropical Timbers, Cotter Cottage, Bug Hill, Woldingham, Surrey. CR3 7LB, UK.

1741 Pratt, R., 1986. **Will the Russians greatly reduce log exports?** In: Marketing Logs, Timber, Lumber and Chips to the Pacific Rim, 2nd annual Seattle Conference, 1985. p. 61.

Abstract only.

1742 Rappleyea, L.L., 1985. **Export outlook for structural composites: "Can't afford to do business as usual."** In: Structural Wood Composites: Meeting Today's Needs and Tomorrow's Challenges. Madison, Forest Products Research Society Proceedings 7339. pp. 135-139.

1743 Rich, S.U., 1986. **Recent shifts in competitive strategies in the U.S. forest products industry and the increased importance of key marketing functions.** Forest Products Journal 36(7/8):34-44.

"The purpose of the research on which this article is based was to compare the strategies followed by forest products companies during the 1976-79 period, as compared with 1984, and to indicate the extent to which these strategies were reflected in the companies' marketing function and marketing organization." (p. 34)

1744 Savill, P.S., editor, 1985. **Growing timber for the market: Proceedings of a Discussion Meeting, Heriot-Watt University, Edinburgh, 29-31 March, 1985.** Edinburgh, Institute of Chartered Foresters. 118 pp.

The meeting was "devoted to considering the characteristics and attributes of the timber of coniferous and broadleaved species that are grown in the United Kingdom, and the possible markets for them." Selected papers are indexed in this issue.

1745 Sedjo, R.A., 1986. **Japan lowers barriers to U.S. forest products.** Resources 84:12-13.

1746 Singh, B.K. and Nautiyal, J.C., 1986. **An econometric analysis of markets for Canadian lumber.** Wood and Fiber Science 18:382-396.
"An econometric model of markets for Canadian lumber has been developed and estimated from data for 33 years." (p. 382)

1747 Skog, K.E. and Watterson, I.A., 1986. **Residential fuelwood use in the United States: 1980-81.** U.S. Forest Service, Resource Bulletin WO-3. 42 pp.

1748 Steinlin, H., 1985. **[World demands and supplies of forest products.]** In: Oswald, M., ed. Human impacts on forests. pp. 91-106.
In German with English summary.

1749 Stier, J.C., 1986. **Pulpwood demand and supply in the Wisconsin pulp and paper industry, 1950-1982.** University of Wisconsin--Madison, Dept. of Forestry, Forest Resource Analyses no. 6; College of Agr. and Life Sciences R 3375. 18 pp.
"This paper presents a detailed look at the demand for fiber by the Wisconsin pulp and paper industry relative to growth and removals of timber from the state's forests." (p. 1)

1750 Stier, J.C., 1986. **Woodpulp imports: How threatening are they?** Woodland Management 7(3):3-4.

1751 Sturgeon, J., 1986. **Alaska as a future competitor in Asian wood markets.** In: Marketing Logs, Timber, Lumber and Chips to the Pacific Rim, 2nd annual Seattle Conference, 1985. p. 40.
Abstract only.

1752 Sunley, J.G., 1985. **Coniferous timber markets.** In: Savill, P.S., ed. Growing timber for the market. pp. 12-21.
Well over half of the sawn softwood consumed in the U.K. in 1982 was used in the construction industry. 85% of this wood was imported. This paper outlines the specifications which British timbers will have to meet to compete in these markets.

1753 U.S. Foreign Agricultural Service, 1986. **Wood products: International trade and foreign markets.** U.S. Foreign Agricultural Service, Foreign Agriculture Circular WP3-86. 37 pp.

1754 Uhler, R.S., 1985. **United States tariff against Canadian softwood lumber.** University of British Columbia. Forest Economics and Policy Analysis Project, Information Report 85-7. 16 pp.

1755 United Nations Industrial Development Organization, Secretariat, 1983. **Measures to promote the use of wood and wood products.** UNIDO/FAO. First Consultation on the Wood and Wood Products Industry, 1983. Issue Paper no. 2. ID/WG.395/8. 15 pp.
Includes a discussion of the development of local markets for wood products in developing countries.

1756 Uttech, P.R. and Stier, J.C., 1986. **Time series analysis of Lake States pulpwood consumption.** University of Wisconsin-Madison, Dept. of Forestry, Forestry Research Notes no. 265. 10 pp. + figures.
"The models developed here may be useful for state level planners in predicting and monitoring overall market conditions." (p. 2)

1757 Venables, R.G., 1985. **The broadleaved markets.** In: Savill, P.S., ed. Growing timber for the market. pp. 22-29.
British hardwoods in 1982 filled 29% of the U.K. market share, but because of their quality, a much smaller proportion of the value.

1758 Warren, D.D., 1986. **Production, prices, employment, and trade in Northwest forest industries, fourth quarter 1985.** U.S. Forest Service, Resource Bulletin PNW-130. 49 pp.
"Provides current information on lumber and plywood production and prices; employment in the forest industries, international trade in logs, lumber, and plywood; volume and average prices of stumpage sold by public agencies, and other related items." (abstract)

1759 Wichmann, A., 1985. **Coniferous fibre markets in the United Kingdom.** In: Savill, P.S., ed. Growing timber for the market. pp. 30-39.

1760 Wolfson, A., 1986. **The U.S. Forest Service as a seller of exportable timber.** In: Marketing Logs, Timber, Lumber and Chips to the Pacific Rim, 2nd annual Seattle Conference, 1985. pp. 58-60.
Abstract only.

1761 Wood-Products Stockpile Corp., Japan, 1986. **International trade in wood products.** Seattle, Wood-Products Stockpile Corp., Japan; Tokyo, Nippon Mokuzai Bichiku Kiko. 10 pp.
Forestry Library received issues for April, May, June, and July, 1986.

1762 Wood-Products Stockpile Corp., Japan, 1986. **Short-term forecast on the supply-demand situation of timber in Japan, June, 1986.** Seattle, WSC, Japan; Tokyo, Nippon Mokuzai Bichiku Kiko. 5 pp.

1763 Wood-Products Stockpile Corp., Japan, 1986. **Wood supply and**

demand information service. Seattle, Wood-Products Stockpile Corp., Japan; Tokyo, Nippon Mokuzai Bichiku Kiko. 30 pp.

Includes tables on the general Japanese economy, the volume of imported wood, supply and demand of lumber, plywood, pulpwood, pulp and paper, wholesale prices, housing starts, etc. Libray received issues for May, June, July, and August, 1986.

1764 Zinn, G.W., 1986. **Marketing as a factor in the management of immature hardwoood stands.** In: Smith, H.C. and Eye, M.C., eds. Guidelines for managing immature Appalachian hardwood stands. pp. 8-21.

TRANSPORTATION

1765 Clark, M.L., 1986. **Cost and productivity of a dual load quadaxle trailer.** Forest Engineering Research Institute of Canada, Technical Report TR-70. 18 pp.

"The objective of this project was to determine the costs and benefits that result from using a quadaxle configuration to haul dual loads." (p. 1)

1766 Esteve, J., 1985. **[The determination of the cost of logs from the forest site to the FOB position, for some typical species and itineraries.]** Bois et Forets des Tropiques 208:69-82.

In French with English summary. The author first makes a comparison of log exports in four major exporting countries of the African coast: Cameroon, Congo, Ivory Coast, and Gabon. He then reviews the principal component elements of the cost of the log's journey from forest to quayside.

1767 Jackson, D.H. and Loveless, R., 1986. **Predicting forest road and bridge construction costs.** Western Journal of Applied Forestry 1:76-79.

"Using market-transactions evidence revealed by transportation project contracts, the authors develop forest road and bridge cost equations... The resulting equations should be useful in transportation planning as well as in timber-bidding studies." (p. 76)

1768 Rolston, K.S., 1986. **Log hauling in the South.** Forest Farmer 45(9):28-30.

1769 Wisdom, H.W. and Jones, K.S., 1986. **The determinants of ocean freight costs for forest products.** Canadian Journal of Forest Research 16:701-709.

"A theoretical model is developed to demonstrate that product stowage, unit value, and competition are important determinants of ocean transportation costs, in addition to distance." (p. 701)

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